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Amateur Radio

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INSTITUTE OF
AUSTRALIA

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3503 Kc.	7021 Kc.	7126 Kc.	8500 Kc.
3509 Kc.	7022 Kc.	7130 Kc.	9125 Kc.
3511 Kc.	7023 Kc.	7134 Kc.	10 Mc.
3512 Kc.	7031 Kc.	7145 Kc.	10.511 Mc.
3515 Kc.	7032 Kc.	7156 Kc.	10.524 Mc.
3516 Kc.	7032.6 Kc.	7163 Kc.	10.530 Mc.
3528 Kc.	7048 Kc.	7174 Kc.	10.536 Mc.
3532 Kc.	7052 Kc.	7179 Kc.	10.544 Mc.
3539.3 Kc.	7062 Kc.	7202.3 Kc.	10.546 Mc.
3634 Kc.	7063 Kc.	8000 Kc.	10.563 Mc.
3640 Kc.	7064 Kc.	8017.5 Kc.	11 Mc.
3675 Kc.	7068 Kc.	8027 Kc.	12.803 Mc.
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All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

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EDITORIAL

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"SHOULD WE HOLD A REGION III. CONGRESS"

Time is marching on, things are changing in the world and what was not wanted yesteryear may be sorely needed today; thus has life on earth progressed down through the ages.

In the realm of Communications, things are changing too. Agreements at International Telecommunications Conferences—long since ratified—are slowly being implemented. But so slow is the progress that, in between times, new services are springing into being; services that require a frequency allocation in the already grossly overloaded communications channels.

Almost monthly in contemporary journals overseas appears reports of the outcry of the Amateur services against the encroachment by communication services into the Amateur bands, on the one hand; and on the other hand refusal by other services to remove existing transmitters from the very bands agreed to at the last I.T.U. to be maintained expressly for the Amateur services on a world wide basis.

Now, what can the Amateur do against this international apathy? Individually, probably little or nothing. Collectively, as an organised body, quite a lot! At least a stoic effort can be made to preserve what once was the Amateurs' "private property," but what today is a mere shell of what the Amateur owned in the 1920's.

There are two major objectives which could be sought, both of which necessitate a lot of hard work and organisation, and a tenacity of purpose that would brook no interference from disruptive or non co-operative external forces:—

(a) An International Congress in Region III., and
(b) Direct representation supporting the stronger northern hemisphere Amateur delegations at the next International Telecommunications Conference.

To implement a Congress for Region III., whilst being a formidable task, would be far from insurmountable. A lot of work and organisation, yes!—but worth every minute if it results in a cohesion of Region III. Societies to finance a delegation or representative to the next I.T.C. as a "fighting force" for the preservation of the Amateur frequency allocations.

And if a Region III. Congress can be organised, then why not hold it in 1956 during the Olympic Games when so many will be travelling to Australia from other countries—some of whom **could** be Amateurs.

As the third largest **Amateur** Society in the world, the W.I.A. must lead the way. The Radio Society of Great Britain held the first International Amateur Radio Union Conference at Lausanne, Switzerland, during May this year. The most important outcome was the establishment of a fund to enable the Societies in Region I. to send a delegation to the next I.T.U. Administrative Conference.

In the Southern Hemisphere little, but talk, has been accomplished. It is time Region III. sat up and took some notice. What do you—the member—have to say?

FEDERAL EXECUTIVE.

THE CONTENTS

The New Look in Frequency Modulation

PART TWO—THE RECEIVER

BY JOHN MILLER,* VK2ANF

Last month's article dealt with a simple but effective method of obtaining frequency modulation or phase modulation of a transmitter; this month a simple method of receiving f.m. will be described.

PROBABLY the biggest stumbling block to the use of f.m. has been the complexity of both design and adjustment of f.m. receivers. Most of us have a fairly good a.m. receiver in the shack, but even mediocre f.m. receivers are rare enough to be objects of curiosity, so that reception of f.m. signals has been almost entirely on normal a.m. receivers—which is hardly to be considered a fair test of the effectiveness of any f.m. system!

Some a.m. receivers give excellent results on fairly wide deviation, whilst others give fair results on narrow band f.m. when using a crystal filter. Another method is to tune the f.m. signal into the null, switch on the b.f.o. and adjust it to exact zero beat, as for single sideband reception. The latter method is probably the best system for use with an a.m. receiver. However, none of these methods takes advantage of the most outstanding improvement which may be accomplished by the use of f.m., viz., the noise reducing qualities of a detector which is not sensitive to amplitude variations.

Discriminators of various types make full use of this advantage and all forms of noise are reduced to a minimum. Noise is almost entirely evident as amplitude modulation on the received carrier, the percentage of modulation being a function of the relative strengths of the noise and the signal. Thus when the signal is weak, noise modulation exceeds the voice modulation depth and consequently readability suffers to the point where it is lost altogether. Various types of audio peak limiters are in use and they assist to a large extent by reducing the peak noise amplitude to a value no greater than the peak carrier amplitude under modulation. Note that it is not possible to limit the peak noise amplitude to the average c.w. carrier amplitude, as this would remove also the positive audio peaks which are up to twice the amplitude of the carrier. This would not only produce severe distortion, but also remove the most important component of modulation. Under weak signal conditions, most of the negative audio modulating swing is lost as it takes the carrier level below the noise level so that by also removing the positive swing, most of the audio would be lost. Thus audio limiters, "noise limiters," have a definite limitation on a.m.

With frequency modulation however, the carrier amplitude does not vary so that it is possible to limit to the point where carrier amplitude variations and consequently noise modulation, are completely removed. It is not necessary to stop at limiting only to the same amplitude as the carrier; it may be carried past this point so that limiting takes place at a small fraction of the total carrier level. Under such conditions chopping the carrier level from say 10 microvolts to 1 microvolt can be made to produce no change at all in the signal fed to the detector. Thus, not only noise but also severe fading has no effect. The S meter may do a merry dance, but the audio signal remains constant in level. It should be understood that such severe limiting does not deteriorate the signal to noise ratio, in fact it considerably improves it.

These advantages are not realised when using an a.m. receiver to receive f.m., so that even under ideal conditions the f.m. signal can give no better results than an a.m. signal. However, by taking advantage of the noise reducing capabilities of an f.m. receiver, considerably better results may be obtained, both on fairly strong signals and weak signals, comparable in strength to the noise present. A further point is that ordinary amplitude limiters, as used in a.m. receivers, only act to any extent on noise of a pulsed character, e.g. ignition noise, whilst receiver noise and similar continuous types are not reduced at all. A limiter as used in f.m. receivers also reduces this form of noise.

It is important to realise the signifigance of the various classifications of f.m. Wide band f.m. as used for commercial broadcasting in the United States is most unsuitable for normal communication purposes, as, spreading the available carrier power over a wide band up to 150 Kc. causes a large reduction in signal to noise ratio. What is called narrow band f.m. in the commercial world is much more suitable for communication purposes as it restricts the bandwidth to 30 Kc. Even so, a receiver having a 30 Kc. bandwidth must be classified as a noisy receiver when compared to a.m. communication receivers having a bandwidth of perhaps down to 6 Kc. for normal phone work. Very narrow band f.m. as used by Amateurs has the distinct advantage of a very much improved signal to noise ratio before the signal ever gets to the detector and then, the use of a detector insensitive to amplitude variations adds the advantages already dealt with. There is no need to stop at 6 Kc.; the bandwidth may be further reduced with a gain in signal to noise ratio. With a.m. this reduces the higher audio frequencies as the bandwidth is progressively reduced, making the signal difficult to copy, but with f.m. a reduction in deviation does not have this effect and the full audio signal is retained, thus giving a further advantage over a.m.

It is true that the pulse noise rejection capabilities of an f.m. receiver decline as the bandwidth is reduced, but in practice this does not detract from the advantages to be obtained, to any extent worth worrying about.

To convert an a.m. receiver for reception of f.m. signals is very simple and it may be accomplished by the addition of a discriminator as an outboard unit or it may be built in to the receiver. Both the Foster Seely and the Ratio detectors have been used by Amateurs but they have the disadvantage of using a special type of transformer and further, require very careful alignment for which a vacuum tube voltmeter is a must. Further, unless temperature compensated, both of these detectors are prone to gradually fall out of balance, whereupon their operation is considerably effected. Transformers (phase discriminators) of the so-called narrow band variety have been and may still be available, but they are not suitable for the 3 Kc. deviation used by Amateurs. They are designed for use with 15 Kc. deviation (30 Kc. bandwidth) "narrow band" systems and their use for the very narrow band f.m. as used by Amateurs results in a very great drop in recovered audio, making them completely useless for the reception of weak signals. In fact, experiments run by a group of VK2 Amateurs some years ago resulted in the discovery that under weak signal conditions, reception by means of a crystal filter was superior to that when using such a discriminator. The Foster Seely discriminator also requires a limiter and even the ratio detector works better on weak signals by adding a limiter.

Discriminators of the type mentioned and numerous other types convert frequency variations to amplitude variations by means of the phase discriminator transformer in which voltages of differing phase are added, the vector sum of the two being applied to a normal diode detector. As the frequency is varied, so the phase angle changes between primary and secondary and the amplitude of primary and secondary voltages in series, when added, results in an amplitude variation in step with the frequency variation.

Still other types use two tuned circuits, one resonant above the centre frequency and one resonant below, so that the relative contribution of amplitude to each diode detector depends on the frequency of the incoming signal relative to the centre frequency. In practically all types, the detector is capable of responding only to amplitude variations, thus the need for a limiting stage ahead of the detector.

A fairly recent development is a type of f.m. detector which in itself is insensitive to amplitude variations, but very sensitive to phase variations. The device, known as a gated beam discriminator takes two forms. One characterised by a virtual electron gun forming a beam of electrons which is controlled by two gating elements, is the 6BN6, available in U.S.A. The other is the so-called detector developed by Philips. This valve has seven grids and in effect accomplishes the same job as the 6BN6 and in the same manner, except that it has no aperture electrode

* 21 Sutherland Street, Lane Cove, N.S.W.

to form the electrons into a beam. The type number is EQ80 or 6BE7, and is available in Australia.

GATED BEAM DISCRIMINATOR

The principle of operation of the gated beam discriminator is quite intriguing and is worthy of description. Fig. 1 shows the circuit as used with the 6BE7. It will be noted that grids 2, 4 and 6 are connected internally and act as screen grids. Grids 1, 2 and 3 are the control grids, grid 7 is a suppressor. Taking first the triode section formed by the cathode, grid 1 and grid 2, it will be seen that the amount of current passed by this section will be a function of the "plate," or G2, voltage and the bias applied to G1.

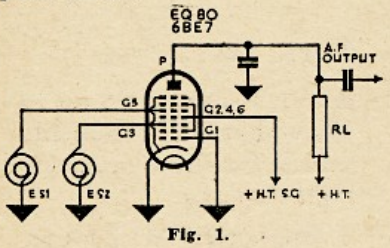

Fig. 1.

G2 also acts to screen the space charge between the cathode and G1 from any potentials appearing on the remaining grids. This is similar to the action in the normal pentode valve where variations in plate voltage are prevented by the screen grid from having any effect on the plate current. Thus the current passed by the first triode section of the 6BE7 is independent of voltages applied to the other electrodes, providing G2 is held at a steady d.c. potential.

Take now the second section which also forms a triode in which the virtual cathode is G2; G3 is the control grid and G4 the plate. Current passed by this section is a function of G4 voltage and the applied bias on G3. The maximum current it may pass is set by the first section, so that this section acts as a cathode having very sharp saturation qualities.

Imagine now a high amplitude sine wave fed to G3. On the negative swing the current flowing to G4 will be cut off whilst on the positive half cycle, current will rise until the maximum amount set by the first triode section is reached. At this point the current will remain constant until the positive half cycle has decayed considerably. The resultant waveform of current will approximate a square half cycle pulse each cycle. This is shown in Fig. 2a.

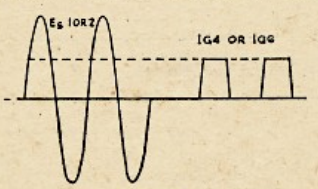

Fig. 2a.

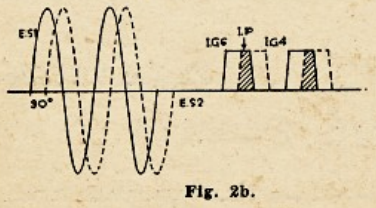

Fig. 2b.

Circuit	A.F. output at 75 Kc. dev.	Suppression of A.M.	Ratio, A.F. volts output to I.F. volts input
Foster Seely with limiter	10v.	12 times	500
Ratio detector	1v.	5 to 10 times	1,400
Detector EQ80	16v.	20 times	14,000

Table 1.—Comparison of F.M. Detectors.

The above table is portion of one appearing in a very interesting article entitled "F.M. Detector Circuits," Part 2, by C. J. Boers, Philips Technical Communications 2/1952. It shows the effectiveness of the EQ80 (6BE7) in terms of sensitivity, a.m. suppression, and voltage output.

Consider now section 3. Here G4 supplies the virtual cathode, G5 is the control grid and G6 and G7 and the plate form what is in effect a pentode. Plate current flow will be a function of G6 voltage and applied bias on G5. More important is that maximum current is set by the amount of current passed by the second section. If the second section is cut off, as it is when the negative half cycle is applied as in Fig. 2a, then no current could pass through section 3, regardless of what voltages appeared on its elements. Thus to study the action of the third section, it is necessary to apply a positive d.c. voltage to G3 in order to hold this section open.

Application of a high amplitude sine wave to G5 will produce a waveform similar to that of Fig. 2a, the third section behaving in the same manner as the second section, so long as section 2 is open. It is thus seen that for current to pass through to the plate of the 6BE7 it is necessary that both G3 and G5 be positive at the same time. These are the two gating elements.

It is also apparent that once the signal applied to grids 3 and 5 has sufficient amplitude to reach saturation and cut off levels, any variations of amplitude will not produce variations in the pulsed plate current. Some slight variation can occur due to variation of the slope of the sides of the waveform, but if the sides are almost vertical, as when the incoming signal is of very large amplitude, then this variation is small enough to be ignored.

Here then is the perfect limiter which will wipe off all amplitude modulation components of a signal, including the noise. Integrating the pulses of plate current will result in a steady d.c. voltage being developed across the load resistance.

In Fig. 2a, both voltages fed to G3 and G5 are in phase so that both grids are open for a half cycle simultaneously. If the voltage applied to G5 is now made to be out of phase with that applied to G3, plate current can only flow during that fraction of the positive half cycle when both grids are positive. This is shown in Fig. 2b, the shaded portion indicating that period in time during which both grids are open. It will be noted that the width of the plate current pulse is now smaller, i.e., the duration of the pulse is shorter. The integrated d.c. plate current is thus of a lower value, as is the voltage across the load.

If the phase difference between grids 3 and 5 is now made greater, they will be open simultaneously for a shorter period still, with resultant fall in plate current, and in theory, if they are 180 degrees out of phase, then as the two grids are never open at the same time no plate current can flow. By feeding the two grids from a tuned transformer, connecting G3 to the secondary and G5 to the primary, then at resonance the voltages appearing on the two grids will show a phase difference of 90 degrees and the resultant current pulses will be quarter-cycle long and occur once each cycle.

If the frequency of the applied signal is now changed, the phase difference between the grids will change, resulting in a longer or shorter duration of the plate current pulse, depending on which way the frequency shifted. Thus varying the frequency will cause the d.c. plate current to rise and fall in step with the frequency variation as the

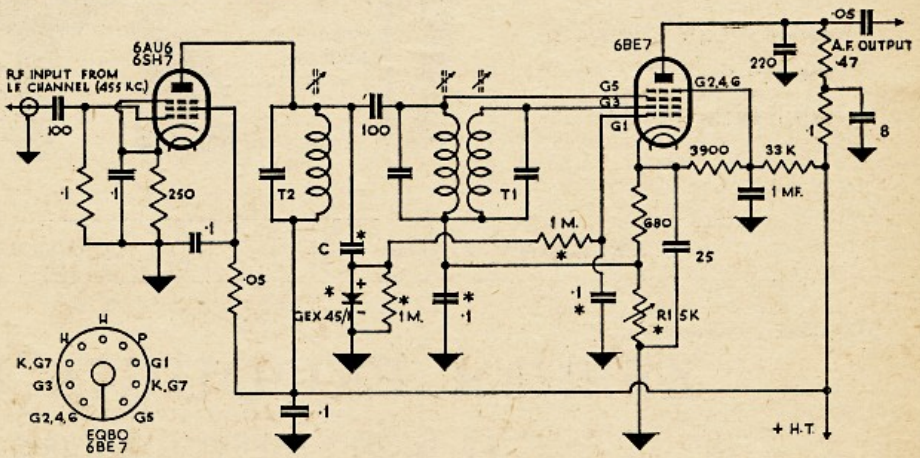

Fig. 3.

Components marked (*) may be omitted if muting is not required. In this case, earth lower ends of both primary and secondary of T1, return G1 to the cathode of the 6BE7, omit R1 and earth the lower end of the 680 ohm cathode resistor.

T1—I.f. transformer to suit receiver i.f., high selectivity type.

T2—Single tuned circuit from i.f. transformer. R.f. choke may be substituted if effective.

C—Muting circuit coupling condenser. Two parallel wires about 1 inch long. Adjust for useful range of muting over R1.

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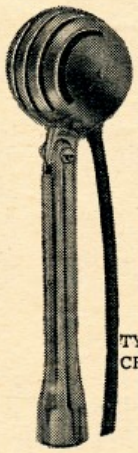
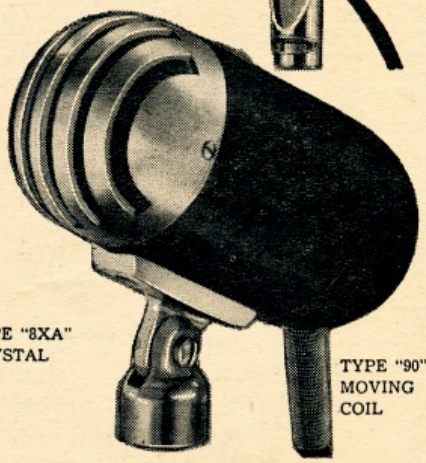


TYPE "8XA" CRYSTAL



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TYPE "90"

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- **Light weight, durable chrome and baked enamel metal case.**
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pulse width varies. The 6BE7 is therefore ideal for use as a frequency modulation detector as it is quite insensitive to amplitude variations, yet fully sensitive to phase variations produced when a frequency modulated signal is fed to the transformer. It requires no limiter, and does not need any special transformers. The figures given in Table 1 show that it is superior to both the Foster Seely and Ratio detectors, the voltage output being quite ample to drive a power amplifier. Distortion is very low and best of all, it is very simple to align and stays put. Results are quite astonishing, particularly on weak signals, where the audio stands out clear above the noise, even though the same signal on a.m. is barely copyable. Limiting is effective with signals right down to the noise level amplitude, the silencing effect being very much in evidence on a c.w. signal which requires a b.f.o. to detect using an a.m. detector.

Fig. 3 shows the unit in use at the writer's station. The 6AU6 is usually worthwhile in order to feed a high signal level to the 6BE7 so that it actually limits on noise alone. It is essential that a high signal level be realised at the 6BE7 grids as it requires at least 8 volts of r.f. before limiting becomes effective. By using the 6AU6 preamplifier, the amount of coupling from the receiver may be reduced to prevent loading on the receiver i.f. channel, yet still maintain sufficient signal for efficient limiting.

The germanium diode is used to provide muting. It applies a positive bias to G1 which is normally sufficiently negative to cut off the plate current of the 6BE7. Once the signal is lost the positive bias disappears and the 6BE7 is cut off, completely silencing the receiver. The effect is quite impressive! R1 controls the signal level at which the 6BE7 is allowed to come into operation and is necessary when searching for extremely weak signals. The diode coupling condenser C should be adjusted to give a useful range over R1. The diode, plus associated components marked by an asterisk, may be omitted if muting is not required, the lower end of the cathode resistor being earthed and the first grid returned to the cathode. In this case, the lower ends of both primary and secondary of the transformer should be earthed.

The plate load of the 6AU6 may be an r.f. choke, or as shown, a tuned circuit. If an r.f. choke is used, it should be effective at the intermediate frequency used.

Once having built the unit, adjustment is very simple. R1 should be set so that no muting occurs and the signal level made as small as possible. This may be accomplished by disconnecting the input coupling to the 6AU6 and merely having the lead from the i.f. channel lying close to the input terminal. Some noise should be heard and this should be peaked by tuning both the primary of the transformer and the tuned circuit in the 6AU6 plate. An output meter may be used if desired.

Now reconnect the input to the 6AU6 and with the maximum signal level available from the receiver (a.v.c. off, r.f. gain up) tune in an f.m. signal accurately and align the secondary of the transformer for maximum recovered audio. That's all!

The discriminator may be aligned accurately by use of a v.t.v.m. if desired, the probe being connected to the plate of the 6BE7, but alignment by ear appears to be quite valid.

Limiting action should be checked by tuning a very weak signal, when a large drop in noise level should result. If no decrease takes place, then the signal level fed to the 6BE7 is insufficient and greater amplification should be used ahead of it.

The integrating condenser in the plate circuit also provides de-emphasis and it may require adjustment in capacity to suit a straight f.m. signal. However, the value shown is a good compromise and should give good results on either f.m. or p.m. transmissions.

Fig. 4 shows a substitute circuit which may be used with a 6BE6 pentagrid tube. The results are not to be compared with those of the 6BE7, but it still gives better results than an a.m. detector and tuning on the slope of the selectivity curve. Adjustment of the 6BE6 circuit involves merely tuning the circuit between grid 3 and ground for maximum audio signal when tuned accurately to an f.m. signal. The circuit for the 6BE6 is known as an Induction Detector and works on similar lines to the 6BE7 circuit, though it does not have the same excellent limiting capabilities.

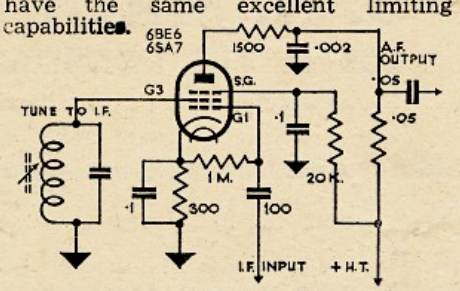


Fig. 4.

With the discriminator described, and the diode modulator described last month, we conclude the description of the New Look in Frequency Modulation. It is hoped that more attention may be given to n.b.f.m. in the future as it has much to offer in the way of improved reception and in particular, offers a very wide field for Amateur experimental work. Very narrow band f.m. (6 Kc.) has been neglected by the commercial world which appears to be quite unfamiliar with the advantages it offers. Perhaps the Amateurs could once again slip back into their old place and give a lead in developing what appears to be a very worthwhile system.

AWARDS FOR TECHNICAL ARTICLES

The Council of the Victorian Division, W.I.A., have decided to make an annual award of up to £5 available for the best article or articles printed in "Amateur Radio" from July issue to June issue of the following year. The judging to be carried out by the Magazine Committee of "Amateur Radio."

VICTORIAN DIVISION
STATE CONVENTION

The Annual State Convention of the Victorian Division of the W.I.A. will be held at Ballarat on the week-end of **27th-28th November, 1954.** The Convention will be opened by the President of the Division, Mr. Gordon Dennis, at 8 p.m. This year the South Western Zone are the hosts. Here is the programme:—

Saturday—

Afternoon—Arrival at 3AMH's shack, Walker Street, Ballarat North, where you will receive identification card and your hotel accommodation.

6 p.m.—The Annual Convention Dinner at Craig's Hotel. Cost approx. 7/6 per head.

7.45 p.m.—Opening of the Convention by the President.
The ladies and children will go to the pictures.

11.15 p.m.—Supper accompanied by the ladies.

Sunday—

10 a.m.—Meet at 3AMH's shack, Walker Street, Ballarat North.

10.30 a.m.—Transmitter Hunt on 80 mx for those interested; finish 12 noon.
Visit to the New S.E.C. power house.
A tour of Ballarat and environs per parlour coach (cost 2/- per head) has been arranged for those interested.

12.45 p.m.—Dinner at Craig's Hotel.

2 p.m.—All Visitors adjourn to the Ballarat Botanical Gardens.
A Treasure Hunt for the children.
A Scramble (any band). Each competitor allowed 10 minutes, and only one tx on at one time.
Guessing the frequency of an oscillator (tuned circuit).
Presentation of trophies, etc.

4 p.m.—Afternoon tea.

5 p.m.—Finish of Convention.

Those people who will be arriving on Sunday, are requested to send their QSL card to Bill Sadler, Walker Street, Ballarat North. Upon receipt, he will send you a map of Ballarat and further details. If you wish accommodation for the Saturday night, let him know immediately, and enclose 10/- as deposit and indicate how many will be in your party. This is most important.

During the business of the Convention, the Kinnear Trophy will be presented to the Zone which has won it for this year.

It is expected that there will be an attractive array of portable and mobile gear, both on the lower frequencies and v.h.f. bands. Let us make this 1954 Convention a bumper success.

THE COMPLETE AMATEUR

PART TWO **BY TOM ATHEY,* VK4UT, A.I.R.E. (Aust.)**

SECTION THREE

A Small Efficient Audio Oscillator

This piece of equipment can be regarded almost as a must in the shack, particularly where it is necessary to check the output of your modulator. It permits you to feed a sustained note into the input of the speech amplifier and if sufficient care is made with the design of the audio oscillator, it will ensure that you get a sine wave pattern output from it. You should be able to adjust the clipping of your modulator to satisfactory levels and ensure an output that is clean and free from distortion.

Of course it must be understood that it will not measure noise and distortion in an amplifier. Equipment suitable for a test of this nature is somewhat beyond the scope of this article. However, if it is possible to obtain the use of one (i.e. an N. and D. meter), you may be quite surprised at the distortion present in your rig.

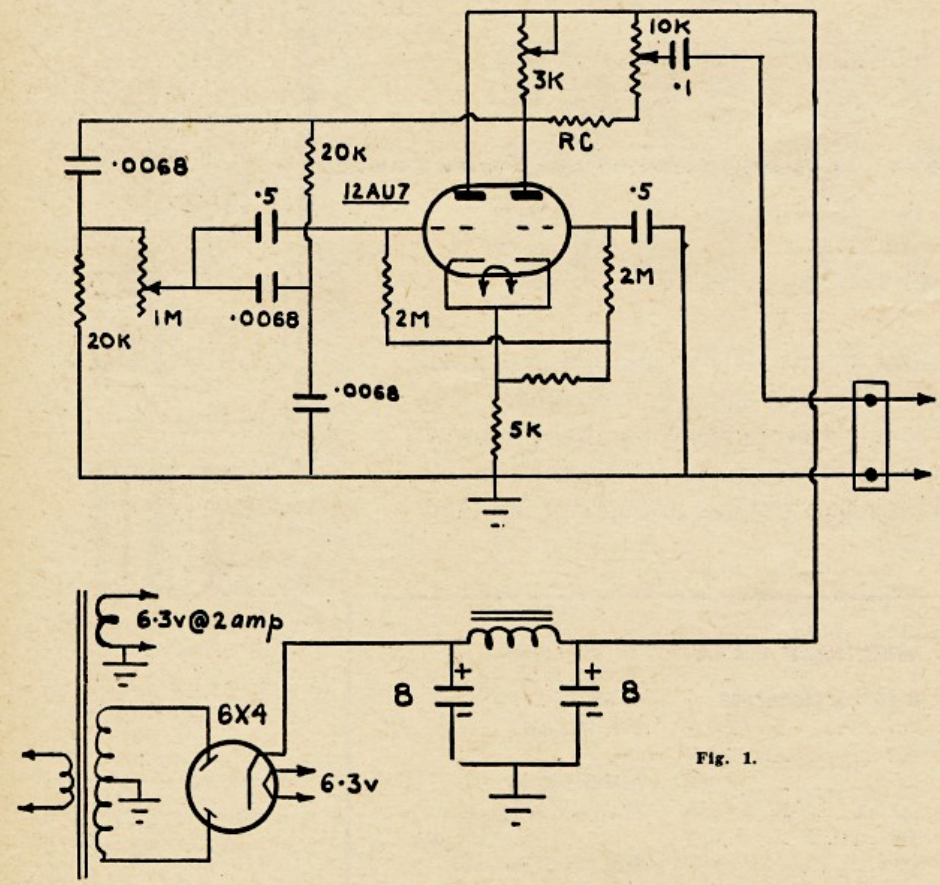


Fig. 1.

The schematic shown (Fig. 1) will meet most of the requirements of the average Amateur and permit him to build up a small efficient audio oscillator having a frequency range of 150-3,000 cycles, thus giving adequate coverage on voice channels used in Amateur Radio.

It is somewhat similar to the well known Wein Bridge type, only it uses fixed condensers instead of variable ones, and relies on a carbon potentiometer for frequency variation. The circuit uses a 12AU7 valve and with a 6X4 rectifier.

It is well to note that the values quoted should be adhered to if possible. The whole unit can be built into a very compact unit that will take very little space on the operating table.

The circuit is simple and straight forward and needs little explanation. The transformer is a small type; the h.t. need not be higher than 180-0-180 volts at 30 mils. and only one filament winding is needed. The dial is a matter of individual choice and need not be a vernier action. One word of caution, use only good types of resistors and condensers.

There are three controls, viz., (1) Frequency control; (2) Amplitude of oscillation; (3) Output control.

CALIBRATION

After allowing a period of time to warm up, say 10 minutes, set aobut calibrating the oscillator. If you have a c.r.o. the task is easy. If this is possible borrow an audio oscillator from another Amateur and feed to the vertical plates a note, say 50 cycles, and note the wave form. Now with the pattern on the c.r.o. feed your oscillator into the horizontal plates of the c.r.o. and line up the new pattern to match with that from the other oscillator. Do this for all points you require, say, 150, 200, 300, 500, 1,000, 2,000 and 3,000 cycles. This is all you really need for a modulator of your rig.

The amplitude of the regeneration is controlled by the amount of plate voltage fed to the second half of the 12AU7 valve and once set should require little future adjustment.

SECTION FOUR

Newcomers' Introduction to Aerials

Right here and now it must be clearly understood that this article is only a short summary on aerials. The theory of antenna propagation and the associate feeders are a feature that requires the type of explanation given by the W.I.A. Classes. In those Classes, the subject is fully covered by the capable instructors.

Therefore it is proposed to quote only a few of the more common types of aerials together with the general constructional data. To do this fully will require quite a bit of your time. Study which type you prefer to erect and consider what you may expect from your antenna.

First let us summarise what is required from an aerial. It must fit your location. It must be built in accordance with your capital. You must consider the orientation of the lobe patterns to see that you put your signal out where it will do the most good, and it must cover as many bands as possible—that is at first. Later on other aerials can be erected for each band, but at first one that will cover at least two bands is an excellent way to start.

Therefore the newcomer is faced with a choice of a few of the more simple types such as:—

1. The Wyndom, single wire fed.
2. The centre fed Doublet, 600 ohm feeders.
3. The twisted fed Doublet, 72 ohm feeders.
4. The folded Dipole, 300 ohm feeders.

These are the more simple types to start with. However, for those who require details on beam construction, I have included charts dealing with the spacing of elements and the types of feed these aerials require. It is a well known fact that if you can afford a beam antenna you will gain immensely in both reception and transmission. To give you full details on beams is beyond the scope of this article, so without any more ado, here is the summary.

THE WYNDOM AERIAL

This aerial was used very extensively by the Forces during the last war. It is

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

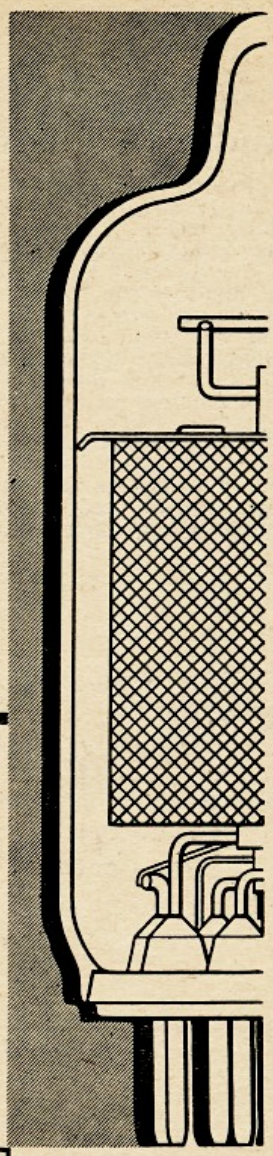
LOW HUM, LOW MICROPHONY, A.F. PENTODE on the Noval Base

The Mullard A.F. pentode, EF86, has been especially designed for use in resistance-coupled, audio frequency, voltage amplifier circuits. An essential requirement of such circuits, low hum and low microphony from the amplifying valve, is achieved with the EF86 by careful internal screening, rigid electrode structure and by the use of a bifilar heater.

Whilst in normal circuitry the EF86 has the low hum figure of 5 micro-volts referred to the control grid, even this figure can be improved. As the control grid pin of the EF86 is placed equi-distant from its two heater pins, any hum induced from the heater pins may be virtually balanced out by providing the heater winding with an earthed centre-tap. Used in this way, the EF86 has a hum figure of the order of 1.5 micro-volts.

ACTUAL SIZE

EF86



M5

Other important features of this voltage amplifying pentode include high gain, small size and single-ended construction. The EF86 is already widely accepted by Australian engineers —many thousands are in service in tape recorders, amplifying equipment and broadcast stations throughout the Commonwealth.

ABRIDGED DATA

HEATER		CHARACTERISTICS		BASE	
Vh	6.3 V	Va	250 V	B9A (Noval)	
Ih	0.2 A	Vg2	140 V		
		Ia	3 mA	**DIMENSIONS**	
CAPACITANCES		Ig2	0.6 mA	Max. seated height	49 mm.
Cout	5.5 pF	Vgl	−2 V		
Cin	4.0 pF	gm	1.8 mA/V	Max. bulb diameter	22 mm.
Ca-gl	0.025 pF	ra	2.5 MΩ		

Mullard

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simple to erect, has fairly broad-band characteristics, and only requires one wire to feed it.

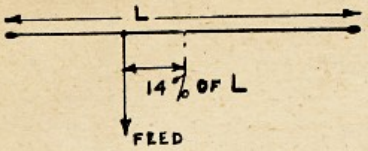


Fig. 2.—Wyndom Aerial.

It consists of a half wave dipole hung horizontally, as shown in Fig 2, and the feeder is joined at a point 14% back from the centre of the half wave. Simply join the end to the set and wind up the transmitter. I have used this aerial on a FS6 from Sydney and held reliable communication up to 1,500 miles day and night for months on end, using a frequency between 5 and 7 Mc.

L equals 467.4 divided by the frequency in megacycles. Answer is in feet.

TWISTED FED DOUBLET

This is another half wave dipole, horizontally suspended. The feeder consists of twisted rubber flex. The aerial is split in the centre with an insulator and one leg of the feeder is joined to each portion of the aerial. The other ends are taken either to a coupling link on the transmitter or to the A. and E. terminals on the receiver.

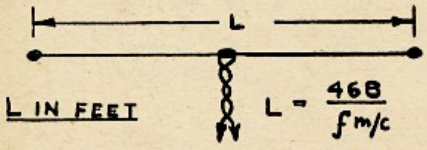


Fig. 3.—Twisted Fed Doublet

The impedance of this antenna is about 72 ohms at the point of junction to the aerial. Incidentally, this type makes a good receiving aerial as it has inherent noise reducing features by virtue of the fact that the feeder cancels out any pickup that it (the feeder) picks up and so reduces the noise.

CENTRE FED DIPOLE

Again we use a half wave dipole, only this time we use a 500 ohm open wire feeder. For the construction of this feeder refer to the Handbook tables as there are many combinations of twin wire that can equal 500 ohms.

The aerial is split in the middle with an insulator of about 4" long. Join the feeders one to each side as shown in Fig. 4.

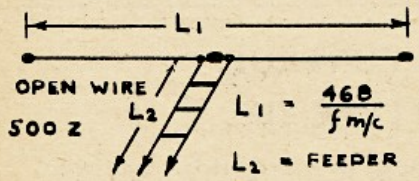


Fig. 4.—Centre Fed Dipole.

This type is perhaps the best aerial to start with. However, as the aerial must be tuned for correct impedance, a word or two will not go amiss. At the transmitter end of the feeders, the impedance varies from 75 to 5,000 ohms, to correctly match this aerial to the transmitter, it will be necessary to use series or parallel condensers (see Table 1).

A point is that if the feeders are reduced to an impedance of 300 ohms, it is possible to tune the aerial as a series fed aerial for all bands.

Its main feature is that it can be used on four bands, say 80, 40, 20 and 10 metres, and the same feeder can be used all the time.

Table 1 shows various combinations of length and the associate feed tuning.

Band	L1	L2	Tuning
Mc.	Feet	Feet	
3.5	136	68	Parallel
7.0	136	68	Parallel
14.0	136	68	Parallel
28.0	136	68	Parallel
7.0	68	100	Parallel
14.0	68	100	Parallel
28.0	68	100	Parallel
7.0	68	67	Series
14.0	68	67	Parallel
28.0	68	67	Parallel

Table 1.

FOLDED DIPOLE

This aerial consists of two wires kept apart by spacers as per dimensions quoted later in the article. The two wires are joined together at each end and one of the wires are split in the middle and an insulator joined in the opening.

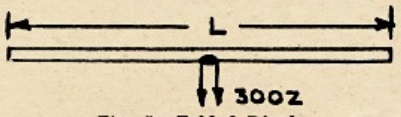


Fig. 5.—Folded Dipole.

The impedance is such that it shows about 300 ohms at the insulator, where you can feed it with 300 ohm ribbon. It can be used either horizontally or vertically, the latter being somewhat more noisier at reception than the former, but the vertical will transmit in all directions at the same time, hence it gives you all round coverage.

It is fairly broad in its tuning, in fact it will handle a band from one end to the other without retuning the feeders. It can also be used for frequencies up to and over 2 metres, which makes it very popular as a v.h.f. antenna.

Calculate the length of the dipole as before, viz.: 468 divided by the frequency equals answer in feet of a half wave aerial.

INVERTED VEE BEAM

One of the most simple beams known is the Inverted Vee. This is an aerial that exhibits definite beam characteristics in so far as the direction of propagation is in one direction only. There has not been much use of it amongst the Amateur fraternity, why I do not know. Its coverage is good. At the specified frequency it is cut for, it shows as much as 8 db gain over a single dipole whilst raising the frequency as much as two times (say 5 to 15 Mc.) it still can be worked and still shows a gain of 2 db over the original dipole.

It only needs one pole and can be set up by one man. From Fig. 6 you can see that it consists of a long wire run up to the top of a pole and then taken down to a terminating resistance mounted at the end you wish to transmit to. The termination resistance has an impedance equal to the characteristic of the feed line. Constructional details are obvious from the sketch.

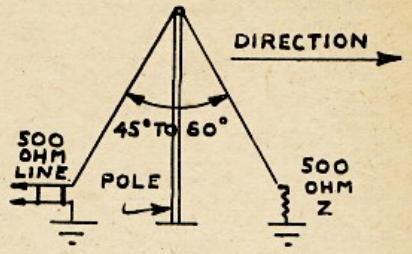


Fig. 6.—Inverted Vee Beam.

It might be of interest to you that it is being used, or has been used, by the chaps down in Antarctica. In an article in a recent issue of "A.M." such evidence stated that the aerial was an Inverted Vee. So if it is good enough for them down in the land of the deep freeze, it should be good enough for us.

STRAIGHT BEAM AERIALS

By this the author means rotary beams mounted on a tower or telegraph pole. First let us consider what we need for a beam. The first consideration is plenty of room. (No chimney pots in the way to be swept off, or such like article.) Next either a tower of about 30 to 40 feet high. The tower can be made of 2" x 2" hardwood, properly spaced and braced. It must be anchored at the base and it **must** have a "catwalk" or platform to stand on so that you can get up and tune the beam. Alternatively you can put up a pole, a 60 ft. one is ideal. But all this costs money. Besides there is the turning mechanism—a prop. pitch motor will do nicely. All in all quite a fair bit of cash and the newcomer has not always got it, not after building his rig.

For those loaded with the necessary and those who insist on a beam, the following tables will give him a good basis to start with. Mind you, chaps, the author is not against beams, he is all for them. They do improve your DXing and gain you some of those coveted QSLs to paste up on the walls of your shack. It is admitted that the chap with a four element beam has the edge on the one with say a folded vertical, but to gain certificates with the latter type of aerial, gives one a feeling that his rig must be good to get results like that.

The writer hopes you can derive some pleasure out of reading the articles over. He has enjoyed writing them and if they help any "new chum" to Amateur Radio and its genial fellowship, then he shall feel truly rewarded.

DATA FOR FEED MATCHING SYSTEMS

Average Dimensions

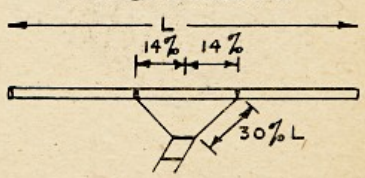


Fig. 7.—Delta Match.
Approximate match to air spaced 500 ohm line.

DATA FOR BEAM AERIAL CONSTRUCTION

Antenna Type	Driven Element Length	Reflector Length	Director Length			Spacing between Elements	Approx. Gain db	Rad. Resistance ohms
			1st Direct.	2nd Direct.	3rd Direct.			
2-element with reflector	462 / Freq. (Mc.)	490 / Freq. (Mc.)	—	—	—	0.15	5	30
2-element with director	462 / Freq. (Mc.)	—	455 / Freq. (Mc.)	—	—	0.1	5.5	15
3-element	468 / Freq. (Mc.)	500 / Freq. (Mc.)	445 / Freq. (Mc.)	—	—	Dir. 0.1 Ref. 0.2	7	20
3-element	468 / Freq. (Mc.)	495 / Freq. (Mc.)	450 / Freq. (Mc.)	—	—	0.25 D. & R.	8	50
4-element	468 / Freq. (Mc.)	492 / Freq. (Mc.)	442 / Freq. (Mc.)	438 / Freq. (Mc.)	—	0.2	9	13
5-element	468 / Freq. (Mc.)	492 / Freq. (Mc.)	442 / Freq. (Mc.)	438 / Freq. (Mc.)	434 / Freq. (Mc.)	0.2	10	10

Table 2.—These measurements are only to act as a guide. Slight adjustments may or will have to be made for each individual circumstance.

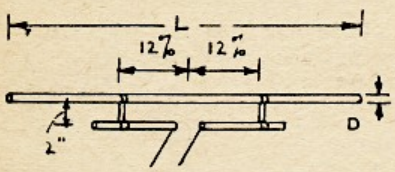


Fig. 8.—"T" Match. Element and "T" Match equal diameters. 300 ohm twin line.

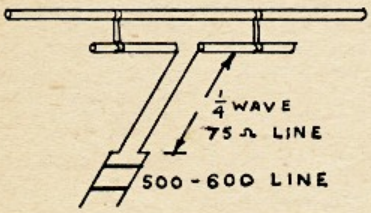


Fig. 9.—"T" Match with Transformer. Same L dimensions as Fig. 8.

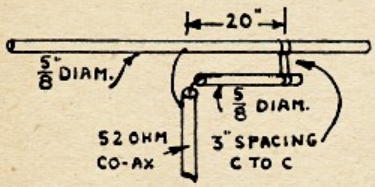


Fig. 10.—Gamma Match.

DATA FOR FOLDED ELEMENT MATCHING SYSTEMS

Method of Calculation

Multiply the Impedance Transformation Radio given below by the Radiation Resistance on Chart for Beam Aerial Sizes (Table 2).

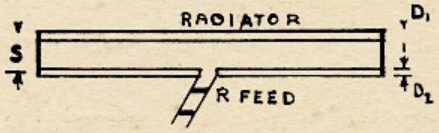


Fig. 11.—Folded Element Match.

Impedance Transformation Ratio—

For D1 = D2 — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 4$

For D1 = 1", D2 = 0.5", S = 1.5" — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 6.9$

For D1 = 1", D2 = 0.25", S = 1" — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 10.5$

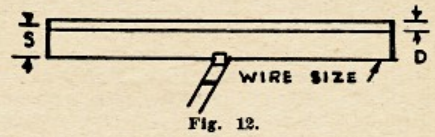


Fig. 12.

Impedance Transformation Ratio—

For D = 1", S = 3", Wire: 12 gauge — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 11$

For D = 1", S = 2", Wire: 12 gauge — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 14$

For D = 1", S = 1.5", Wire: 12 gauge — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 18$

For D = 1", S = 1", Wire: 8 gauge — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 24$

For D = 1", S = 1", Wire: 12 gauge — $\frac{\text{R. Feed}}{\text{R. Resist.}} = 32$

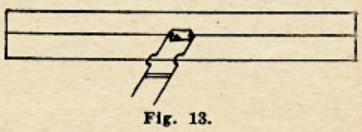


Fig. 13.

Impedance Transformation Ratio—

$\frac{\text{R. Feed}}{\text{R. Resist.}} = 9$

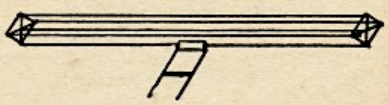


Fig. 14.

Impedance Transformation Ratio—

$\frac{\text{R. Feed}}{\text{R. Resist.}} = \text{approx. } 25$

NEW OVERTONE OSCILLATOR CIRCUIT

BY J. C. DUNCAN,* VK3VZ

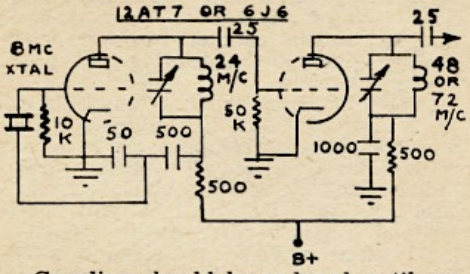
The overtone oscillator is now an accepted method of reaching high frequencies from a low frequency crystal with a minimum of stages, and quite good output can be obtained at the 3rd, 5th and higher odd harmonics of the crystal.

With an 8 Mc. crystal, the triode oscillator actually oscillates at 24 Mc., and if a twin triode is used, the second section can then double to 48 Mc. or triple to 72 Mc. Imagine stages needed with the conventional doubling system to get to 72 Mc., hence the popularity of overtone circuits.

Also with the overtone circuit in converters, we can reach our final crystal controlled frequency with a minimum number of stages, and a further important point is that harmonic radiations from the oscillator will cause spots through the spectrum at 24 Mc. intervals and not 8 Mc. intervals as would occur with conventional crystal oscillators. This helps a lot in converter design in eliminating spurious signals through our v.h.f. bands.

The circuits described in the A.R.R.L. Handbook use either a tapped coil to obtain feedback or a separate regeneration coil.

Regeneration is then adjusted so that as the plate tank condenser is tuned through the 3rd or higher harmonic of the crystal, the stage regenerates, and listening to the output on a receiver at the harmonic frequency, the note should be crystal and only vary slightly with variations of the tank condenser. If too much regeneration is used, the stage will self oscillate at some settings of the condenser and at others will come under the control of the crystal.



Coupling should be reduced until, as the plate tank capacity is increased, we find firstly, crystal controlled oscillation, but with low output, and then gradually increasing output until the stage suddenly ceases to oscillate; very much like an ordinary crystal oscillator working at its fundamental frequency.

One of the difficulties has been to find a means of making fine adjustments to the feedback coil or tapped coil in the two most used circuits, and when a new circuit appeared in "QST" for September, 1953, most of the v.h.f. fraternity sat up and took notice. Here was a circuit which didn't need tapped coils or feedback windings and depended on the proportion of two condensers for adjustment.

All who have tried this circuit are loud in its praises, not because of greater output, I found this was the same, but its ease of adjustment.

It will be seen that the crystal is brought back to the junction of the 50 and 500 pF. condensers which constitutes the feedback circuit. The 50 pF. value should be changed up or down to achieve output under crystal control only, as explained previously. The tank circuit is tuned to the frequency required. In my case the 50 pF. was increased to 100 pF., but was not very critical and operated correctly with all crystals used. This checks with others who have tried this circuit.

Raising the value of the 50 pF. condenser **increases** the regeneration. The 12AT7 and 6J6 twin triode work very well with the appropriate plate voltage applied.

If you are having trouble with your overtone oscillator, we can recommend this one. One further thought—with a 7 Mc. crystal, output could be obtained on 21 Mc. in one triode stage for use on that band, in driving the following amplifier tube.

* Technical Editor, 23 Parkside Ave., Balwyn.

DO NOT FORGET!

The closing date for copy for the January issue is 3rd December.

N.S.W. HUNTER BRANCH FIELD DAY

The Hunter Branch Field Day was held at Blackhall's Park on Sunday, 3/10/54, with a total attendance of 70. Present were 18 Amateurs, 4 Associates and their families, including Ernie 2ASE and Chas 2AWQ, who both made the trip from Sydney to be at the Field Day, and their presence was much appreciated by the Branch. The others present were 2FP, 2PQ, 2AFA, 2AOR, 2AHA, 2XT, 2OT, 2KG, 2ARV, 2AUH, 2AGD, 2CS, 2SF, 2ADS, 2XY, 2WU, and Associates Gordon Sutherland, Dave Elsley, R. James and B. Bailey.

During the day the children were liberally supplied with ice cream and soft drinks and entertained with films.

The highlight of the Field Day was the Hidden Tx Hunt on 144 Mc. on foot, blindfolded. Five receivers were available for use and the event was run off in heats. In the first heat, Frank 2AUH found the transmitting dipole in 13 minutes; Ernie 2FP, in the second heat, also logged 13 minutes; Charlie 2ARV, however, was the outright winner, taking only six and three-quarter minutes to find the dipole in the third heat.

The course was a 200 yard stretch studded with obstacles such as trees, cars, and a large tin shed; and the contestants had to make actual contact with the antenna with their body or their receiving apparatus. Each contestant had his group of advisers to prevent him making violent contact with obstacles and to give him misleading and contradictory advice.

After the Hunt had concluded, races were conducted for the children, OM's, and XYL's, also competitions such as "Guess the Frequency," won by 2FP; "Pick the Valves," 2AWQ; "Lucky Number," won by Joyce Whyte; "Nail Driving," ladies—Mrs. Swain, gents—2OT. Charlie 2AWV received a 2E26 for winning the Hunt. In the races, J. Gray won the Boys' Race, M. Bailey the Girls' Race, Athol Greenhalgh the OM Race, and Mrs. Fitton won the Ball Throwing.

Activities closed at 5.30 p.m. and all OMs dashed madly home to see what 20 mx DX had popped up during the VK-ZL Contest.—2AOR.

— • • • —

AMATEUR CALL SIGNS

FOR MONTH OF SEPTEMBER, 1954

ADDITIONS

VK—

New South Wales

2DE—D. E. Laing, 16 Rose St., Chippindale.
2GE—M. G. Datson, 84 Ocean St., Woollahra.
2KJ—K. G. Avery, No. 1 Basic Flying Training School, R.A.A.F. Uranquity.
2LP—L. N. Page, 10 Tusculum St., Potts Point.
2ADC—G. S. McLeod, 82 Stoney Creek Rd., Beverly Hills.
2AHT—J. E. Thompson, 23 Light Parade, Bar Beach.
2ASF—S. C. Fletcher, Mailing St., Eden.
2ZAG—J. B. Goodman, 29 Boolarong Rd., St. Ives.
2ZAL—C. F. Luck, St. James Flats, 6 Stanley St., Sydney.

Victoria

3GT—G. E. Lewis, 10 Henderson St., West Brunswick.
3VB—Mrs. C. M. Adams, 12 Jellicoe St., Box Hill South.
3XU—A. G. Weynton, 30 Park St., West Brunswick, N.10.
3AAK—C. S. Rann, 2 Georgiana St., Sandringham.
3ZAD—R. C. Bowen, 8 Chatham Rd., Canterbury, E.7.
3ZAK—E. R. Kelly, 14 View St., Highett, S.21.
3ZAM—I. C. McKellar, "Carramar," May St., Elsternwick, S.4.

Queensland

4ZAD—D. L. Bates, 150 Lytton Rd., East Brisbane.
4ZAM—I. C. Morrison, Avon Lodge, 171 Riding Rd., Hawthorne, N.E.1.

South Australia

5GZ—Penfield Amateur Radio Club, C/o. L.R.W. Hostel, Salisbury.
5ZAH—R. G. Henderson, 14 James St., Southwark.
5ZAO—E. M. O'Neill, 51 Nelson St., Harcourt Gardens.

Territories

9BS—R. A. Sutherland, Central Avenue, Rabaul, T.N.G.

ALTERATIONS

VK—

New South Wales

2DZ—22 Ella Street, Adamstown, Newcastle.
2XU—69 Holborow Street, Croydon.
2AAB—33 Flavelle Street, Concord.
2ACE—16 Banksia Avenue, Leeton.
2AIL—11 Westgarth Street, O'Connor, A.C.T.
2AJL—42 Tindale Road, Artarmon.
2ALI—6 Frenchman's Road, Randwick.
2ALZ—Oriental Hotel, Tumut.
2AQT—7 Griffith Flats, Canberra Ave., Canberra.
2ARD—S.M.A. Camp, Island Bend, via Cooma.
2ARJ—Jean Street, Coffs Harbour.
2AWJ—Range Road, West Pennant Hills.

Victoria

3NH—"Teangi," Wattle Avenue, Montmorency.
3RV—23 Stewart Street, Bentleigh, S.E.14.
3SE—39 York Street West, Ballarat.
3SZ—23 Paget Avenue, Glenroy, W.9.
3AHE—70 Moore Street, Traralgon.
3AMU—Station: 15 Bowen Street, Hawthorn; Postal: Flat 6, 11 Loch Street, St. Kilda.
3ANC—Gnotuk Road, Camperdown.
3AWJ—79 Wilson Street, North Carlton.

Queensland

4GN—65 Hewzell Terrace, Green Slopes.
4GP—76 Longman St., Coopers Plains, Brisbane.
4MX—18 Lucy Street, Gaythorne, N.W.3.
4WL—16 Rosedale St., Coopers Plains, Brisbane.

South Australia

5BU—14 Woodworth Street, Blackwood.
5WC—Station: Club Rooms, Baringa Street, Woomera; Postal: C/o. Hon. Sec., Post Office, Woomera.
5WI—9 Holden Street, Hindmarsh.
5WK—26 James Street, Plympton.

Western Australia

6DH—99 Melville Beach Road, Applecross.
6RE—C/o. Wynnes Electrical, Morawa.

Territories

9DS—C/o. Department of Civil Aviation, Wewak, T.N.G.
9WL—C/o. Radio Telecommunications Centre, Rabaul, T.N.G.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	172	VK4RT	22	124
VK3BZ	3	168	VK4WJ	17	122
VK6RU	2	164	VK4DO	20	116
VK4FJ	21	164	VK4JP	8	114
VK3EE	10	163	VK5MS	24	109
VK3JD	1	155	VK4CB	28	109
VK4KS	9	152	VK3WM	29	109
VK6KW	4	150	VK3HO	25	103
VK3ATN	26	145	VK2ADT	13	102
VK3LN	11	141	VK2AHA	15	102
VK3AWW	14	140	VK6PJ	19	101
VK3JE	7	139	VK3IG	5	100
VK4WF	16	137	VK3GG	18	100
VK4RW	23	135	VK5LC	27	100
VK6DD	6	126	VK3AUP	30	100

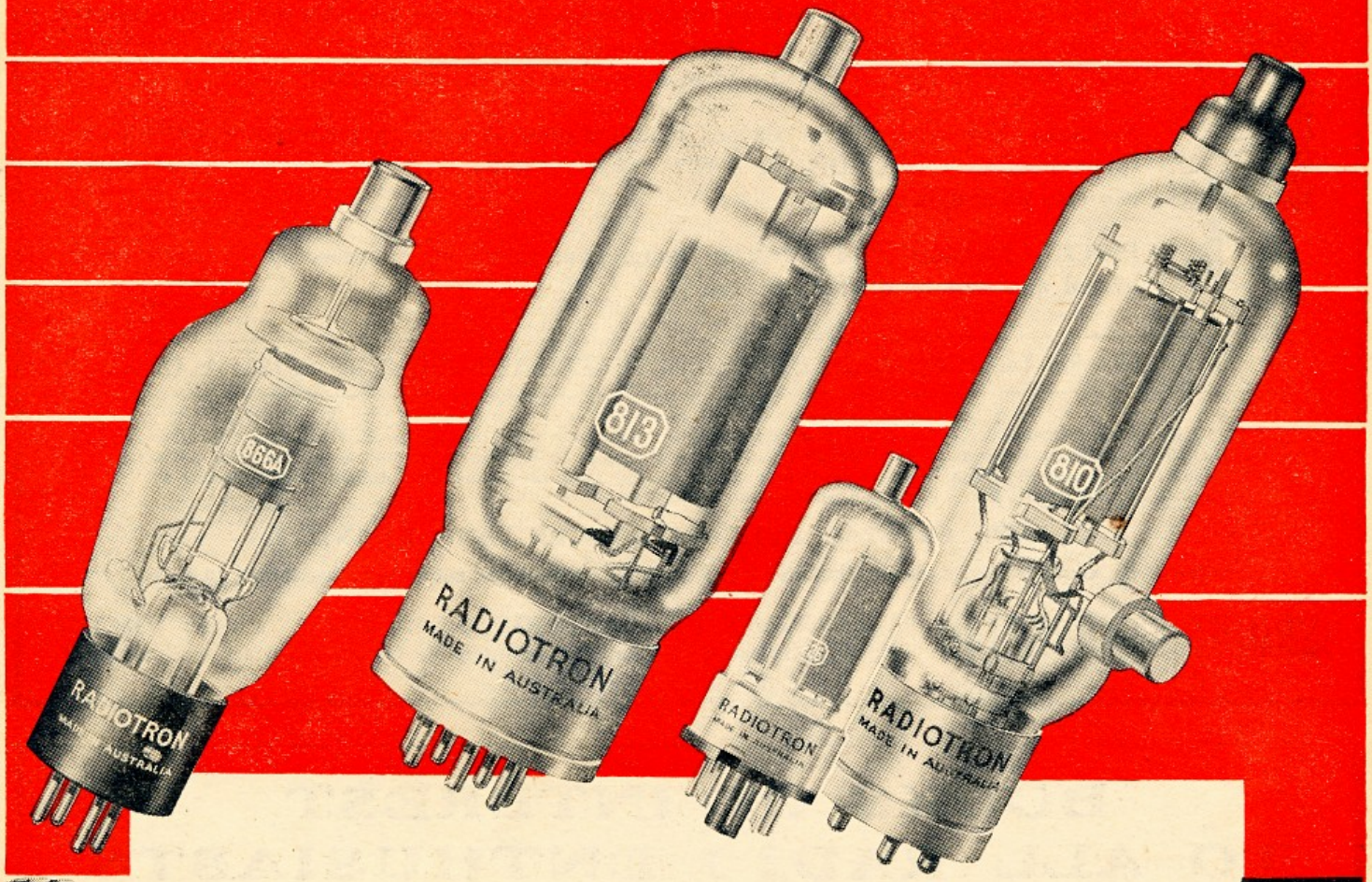
C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	214	VK5FH	31	134
VK3KB	10	200	VK4RF	11	125
VK4HR	8	195	VK3HT	37	124
VK3FH	15	191	VK3YD	27	123
VK4FJ	29	191	VK3EK	3	122
VK4EL	9	175	VK3JI	25	118
VK5BY	45	172	VK3PL	38	117
VK3CX	26	168	VK3UM	12	116
VK5RX	23	159	VK2OY	44	115
VK6RU	18	155	VK7LJ	24	114
VK2EO	2	152	VK4DA	7	113
VK3CN	1	151	VK7LZ	17	112
VK2GW	16	151	VK4RC	13	107
VK6SA	28	150	VK9XK	41	107
VK5BO	33	150	VK6KW	40	104
VK4QL	36	146	VK3RJ	42	104
VK4DO	20	144	VK2YC	34	103
VK3XO	43	144	VK3PG	46	102
VK3VW	4	143	VK3APA	14	101
VK2QL	5	142	VK3NC	19	101
VK3XK	30	138	VK2OA	32	101
VK3JE	21	137	VK7RK	22	100
VK3YL	39	135	VK2AEZ	35	100
			VK4RW	47	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	224	VK5LC	55	118
VK4HR	7	210	VK7LZ	23	116
VK4FJ	32	206	VK3VQ	46	116
VK6RU	8	199	VK2ASW	53	116
VK3JE	12	198	VK3JA	43	114
VK2NS	16	195	VK2ADT	14	113
VK3HG	3	181	VK3HO	38	111
VK4EL	10	175	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK4DO	15	168	VK9XK	54	109
VK3KX	1	167	VK2ZC	25	108
VK4KS	24	167	VK3KR	56	107
VK3AWW	45	150	VK2YL	11	106
VK9GW	48	150	VK3AWN	36	105
VK4RW	52	145	VK6WT	58	105
VK3LN	29	144	VK2VN	18	104
VK5FL	26	143	VK4UL	27	104
VK4WF	40	141	VK6PJ	44	104
VK3HT	41	141	VK6PW	50	104
VK3MC	5	139	VK2HZ	17	103
VK3OP	19	137	VK7KB	30	103
VK6DX	42	137	VK2TI	37	103
VK6DD	22	136	VK3YS	57	103
VK2ADE	28	133	VK7RK	31	102
VK2AHA	9	128	VK4TY	35	102
VK2AHM	20	125	VK5HI	51	101
VK3PG	47	124	VK2ACX	6	100
VK3JI	33	119	VK2TG	39	100

RADIOTRON POWER VALVES



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AWV **RADIOTRON**

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DX ACTIVITY BY VK3AHH†

PROPAGATION REPORT

3.5 Mc.: During the month DX conditions were again relatively good. However, **no African or South American** break-throughs were reported or observed here. **North America** was reasonably well represented between about 1000z and 1200z. Erratic **European** conditions existed between 2000z and 2030z.

7 Mc.: This band still appears to be the most reliable band as far as overseas communication is concerned, as is to be expected for this period in the sunspot cycle. **Europe** was workable between 0600z and 0800z (long path) and 1930-2230z (short path) with erratic openings between 1400 and 1800z. **North Africa** came through around 0700z and also around 2130z, with **East Africa** between 2000 and 2130z. **North America** was represented over both the short and the long path (0600-1300z and 1900-2200z) and the **Far East** showed up around 0800-1300z. **South America** broke through between 0600z and 1100z.

14 Mc.: Here general band conditions may again be described as rather sporadic, although quite good openings occurred during the month. **Central and South American** conditions appeared to have been the most reliable ones between 0200 and 0630z with South America again breaking through around 2200z. **African** conditions were quite good around 0530z to 0800z. **European** contacts were possible over both short and long route (1200-1800z, 0500-0800z). **North American** communication was somewhat unreliable in comparison with that during previous months, with occasional break-throughs between 2200 and 0700z.

21 Mc.: A slight improvement can be reported. Openings to **W-land, South** and **Central America** were reported between 2200 and 1300z with **Pacific Islands** until 0700z.

27-28 Mc.: Details of a possible opening to California are unfortunately not at hand.

NEWS AND NOTES

During September, **VQ8AC** was supposed to be on 14007 and 7003.4 Kc.

A highlight was another ZM7 representation on 7 Mc. by ZM6 stations, while ZM6AR has been issued with the call sign ZM7AA (see "A.R." 5/54). Another news flash points to more activity by Bari, VR2BZ, from there before the end of November.

KP6AK, Palmyra Island, is on 14220 Kc.

VK1HM, Cocos Island, is now on the way back to the mainland.

CR8AB is supposed to be on 14024.5 Kc. on Sundays, but, following overseas reports, you should "slohohooow" down when you like to work him (4 w.p.m.!!).

FM7WN intends to operate as **FG7** as soon as the licence for such operation is received.

ZD9AB is on 14100 and 14193, A3.

VP8AZ, Graham Island, Antarctica, is on 14050 Kc., mainly around 1500z.

A request for **80 mx skeds** was received from Jan Gunnar, SM5AQW, who wants to contact more VKs after his VK5KO QSO some time ago. Your scribe will try to do everything to satisfy him and in case others wish to join in: the best time in November will probably be around 1900z, from 1845z to 1945z for VK3, say, to be changed accordingly for other States. A sked between **VK1AC** and **SM5AQW** has been arranged and let's hope it is successful.

Readers will notice quite a few new correspondents this month, and it is our particular pleasure to welcome them, hoping that powers governing DX layers will continue to be kind to them and, for that matter, to all of us! A special welcome is extended to an old-timer in DXing, Jack 5KO, who returned to **80 mx DX** during September. To those who may be unaware of it, VK5KO was the DX scribe, under the call sign VK3WL, more than twenty years ago! Also, Jack is well known for his consistent 80 mx DX results a few years back, in fact, we may safely say that there is hardly a VK call which is so well known all over Europe. There have been many VKs on 14-28 Mc., but **only one** gave **Europeans** their VK contact on 80 mx so consistently.

Following an official W.I.A. request, your scribe contacted various VK DXers during the month and asked for co-operation in listening for **7HTAS** on 8364 Kc. This is a raft manned by one man on the way to Samoa or at least somewhere in this area. It is unfortunate that, so far, no success can be reported.

Reports, hear-say, and overheard QSOs, indicate that this column is read by a good percentage of Amateurs and thus we may be able to hereby reach those concerned:

Please Remember the Gentlemen's Agreement!

3500 — 3550 Kc. c.w. only
7000 — 7050 Kc. c.w. only
14000 —14100 Kc. c.w. only
21000 —21100 Kc. c.w. only
28000 —28100 Kc. c.w. only

Other frequencies within the bands are for both phone and c.w. **The only exception** to the above agreement is the operation of **Civil Defence Emergency Networks.**

Members of the world-wide DX fraternity seem to be a good bunch of fellows, don't they? Yes, sure, but they are still human beings and thus have good and also, unfortunately, bad qualities. Well, you know what I am driving at, so here is the reprint from the R.S.G.B. "Bulletin," August, 1954:—

"J. Jamie.—The R.S.G.B. has been authoritatively informed by his employers that Mr. M. Jamie, the operator of Amateur Radio Station ST2UU, known to Radio Amateurs all over the world as J. Jamie, has not left Khartoum since April, 1953. Further, Mr. Jamie was not in Afghanistan in 1952. Contacts made when he was signing with any other call sign than ST2UU during this period, were therefore with his station in Khartoum and the use of such call signs as FB8UU, FL8UU, HZ1UU, MS4UU, 4W1UU, VQ6UU, VQ7UU, VQ9UU, and VS9UU, etc. were unauthorised. QSL cards sent out by Mr. Jamie for these call signs did not, in fact, confirm contacts with the countries indicated." No further comment!!

There were no additions to our "black list" of Commercial stations in the Amateur bands. However, thanks are offered to Mr. John McKendrick, who wrote from London, N.W.8, England, and assisted by throwing some light on to b.c. stations on 7 Mc. mentioned as unidentifiable, by quoting a list of b.c. stations.

ACTIVITIES

3.5 Mc.: Frank **2QL** starts off with **DU7SV***, **W2***, **W7***, and Alan **3CX** heard **DU7SV, W2,** and **W6.** Don **3ALQ** heard **VR2** on phone. Jack **5KO** continues his 80 mx DXing with this f.b. list: **G6CJ***, **EI9J***, **GI4UR***, **GI3HCG***, **DJ2BC***, **G6ZO***, **W2***, **W3***, **W4***, **W7***, **W8***, **HA5B***, **OK3DG***. Doug **7DZ** heard **HP3FL** on phone, while Pat **7PM** worked **VK9SP***. Eric **BERS195** heard **W2** and **W7.** Here at **3AHH** we have **DU7SV***, **W1***, **W3***, **ZK1BI, W6, W4, SM5BHA, DL3KN.**

7 Mc.: Chas **1AC: ZM6AI***, **KL7***, **VK1EG*** (1254z), **LA6U***, **SM5AQW***, and a series of **JAs***. **2QL: FA8BG***, **ZM6AL/ZM7***, **ZM6AI/ZM7***, **VU2AL***, **Gs***, and **KP4YL, TI2PZ, VP9KO, VP6KL, HB1MX/HE, FA8DA, EA9DF, YI1ML, CO8AQ, KP4CC, YV5BJ, YU, KC6, ZB1BV.** Norm **2XZ: YV5DE*** (1030z), **KH6***, **F3ML***, **Gs***, **JA*** and **CN8GB.** Laurie **2AMB: VE1ZZ***, **PA0VB***, **KC6AA***, **Gs***, **DU7SV***, and **YV1CA** (phone), **YV5DE, YV5BJ.** Neville **2APL: JAs***. Phil **2AQO: VU2AL***, **KV4AA***, **KH6***, **JA***, **KL7***, and **KC6, VS2, XE2, DU9, DU7, KR6.** **3CX: PJ2CE***. Harry **3GU: JAs***. Bill **3TX: Gs***. Ken **3AQJ: CN8HM***, **JAs***. Ken **7KM: VE3SF***, **KV4AA***, **Gs***, **KM6***, **CO8AQ***, **KG6***, **KL7***, **KH6***, and **VR2CG, HR1JZ, FO8AR, OA1AS, PY2QW, KP4CC,** and short path **Europeans. BERS195: CE3QW** (0800z), **FA9VE, I1MV/Trieste, KC6, KG6, VR2, KZ5CR, SM8CND. Jim Hunt: JAs, FU8AC, KC6, KH6, CT1CL. 3AHH: Gs***, **VE3BLU*** and **VP6KL, HB9JZ, EA1AB, YI2AM.**

14 Mc. c.w.: 1AC: KR6*, **OH***, **JA***, **KZ5HL***, **ZC5SF***, **VK1EG***, **LU6DJX***. Pete **2PA: KA***, **2QL: HS1D***, **VP6CJ***, **AC4AB***, **CR7LU***, **ZE1JK***, **FB8XX*** and **HR1, KC6. 2XZ: VP7NM***, **FI8AI***, **LA***, **EI***, **G***, **GM***, **DL***, **OH***, **SM***, **F***, **YU***, and **XZ2EM, AP5TM, C3AR.** Noel **2AHH: VP6CJ***, **HS1VR***, **OD5LC***, **4X4GD***, **FO8AM***, **ON4***, **YU***, **PA0***, **CR9AF***, **YU***, **LZ***, **HA***, **MP4BBL***. **3CX: FB8XX***, **VS2***, **VR3A***, **G***, **ZM6AL***, **VK1DY***, **EA***, **ZC4RX***, **YV5AE***, **OE***, **EA5***. Harry **3GU: F***, **DL***, **OH***, **VS4HK***, **VP6CJ***, **SV1SP***, **YU***. Allan **3HL: 4X4FW***, **ZB1BU***, **DL***, **G***, **JA***. Jack **3JA: VQ4EG***, **JA***, **4S7***, **VS6***. Don **3PV/3APV: KG6IG***, **FR7ZA*** (0600z), **VR3A***, **ZM6AL***, **OE3AS***, and **LU4AAN, ZE6JJ, VK1EG** (0615z), **FB8XX, KM6, ZS6AIP, 4X4FW, 4X4DX, ZC4PB, HB9, DL,** Lance **3ZA: KT1UX***. Don **3ADI: DL***, **DJ***, **F***, **SM***, **JA***, **ZC4PB***, **G***, **4S7HK***, **KZ5SX***. Bob **4RW: ON4***, **DL***, **YO3***, **YU***, **OZ7***, **4S7HK***, **VS1***, **OH***, **G***, **HA5***, **OD5LC***, **FKS8BC***, **FA8RJ***, **OD5LJ***, **ZM6AL***, **KC6ZB***. John **5HI: ZC4JA***, **VQ8CB***, **ZD6BX***, **VQ2IM***, **ZE6JJ***, **CR6CJ***, **FB8XX***, **VQ4EI***, **VQ4EG***, **OQ5HI***. Ray **5RK: JA***. **BERS195: CR9AF, F, DM, FI8AP, HL1TR, HS1D, KR6, KX6, XZ2EM, ZM6AL, ZS2K.**

14 Mc. phone: 2PA: HC1LW*. **2XZ: ZM6AT***, **HK3PC***, **HK3PV***, **TI2DLM***. **2AHH: VP1GG***, **TI2RC***, **HR1BG***, **CP5EK***, **VS1***, **TI2GC***, **4X4***, **OD5AB***, **HC1LW***, **VR2***, **KZ5WZ***, **ZS5JM***, **KA/JA***, **G***, **HK4DF***, **YV5CI***, **VP6CJ***, **TI2RMA***, **OA4CK***, **I***, **VS2***, **AG2BC***. **2APL: ZE2KE***, **VK1PG***, **ZS5DE***, **HK3PC***, **HC1LW***, **KH6***. **3JA: HC1LW***, **TI2***. Don **3PV/3APV: G, GM, OH, OE, VS1, VS2, HP1CC, YV5AB, HK3PC, HK5ER, HK3FV, HK3BN, CO2OS, CM9AA, ZE2KP, ZS5DE, OD5AB, HC1MB.** Stan **3TE: TI2GC***, **KA/JA***, **TI2WZZ***, **G***, **HK3PC***, **HK3FV***, **GM***, and **YK1DX. 3ADI: KR6LW***, **4S7LB***, **VU2EH***, **JA***, **VS2***, **KC6ZB***, **DU1GF***, **XZ2OM***, **4X4DK***, **TI2GC***, **TI2RMA***, **I***, **OH***, **DL***, **PA0***, **EA***, **G***, **ZM6AT***, **HK3PC***, **KZ5WZ***, **ZS5DE***, **ZS6AW***, **ZS5MP***, **HC1LW***, **YV1CB***, **OA3C***, **HC2MG***. **3AQJ: DL***, **DU6RG***, **GM***, **HK3PC***, **HK3FV***, **HR1BG***, **KA/JA***, **KA0IJ***, **TI2GC***, **TI2RMA***, **VS2***, **XE2KW***, **ZM6AP***, **VS5JM***. **4RW: HC1LW***, **TI2GC***, **ZC5VR***, **VS6CU***, **G***, **HK3PC**. **5HI: VQ4EI***, **HS1D***, **KJ6***, **TI2GC***, **TI2RMA***, **TI2CHV***, **TI2PP***, **I***, **ZS***, **KA/JA***, **VK1DY***. Bill **6DX: VS4HK***, **VS2***, **AG2AB***, **G***, **PA0***, **SM***, **GM***, **LA***, **OZ***, **OH***, **VS1***, **CN8MM***, **LA***. Pat **7PM: HK3PC***, **HK3FV***, **I***, **HC1MB***, **ZE3JY***, **TI2GC***, **VQ2DI***. **BERS195: HR1RG, VS2, ZC5JM. Jim Hunt: SV0WK/Crete, OH, I, DL, SM, GM, HZ1AB, TI3LA, TI2GC, TI2RC, TI2CHV, HK3PC, YV1CB, HC1LW, OA3C, VS6CW, VS6BE, 4S7YL, VS1, VU2EH, OD5AB, ZC5VR, KP4ZM, ZM6AL, ZM6AT, KC6ZB, KA/JA, KL7, ZS.**

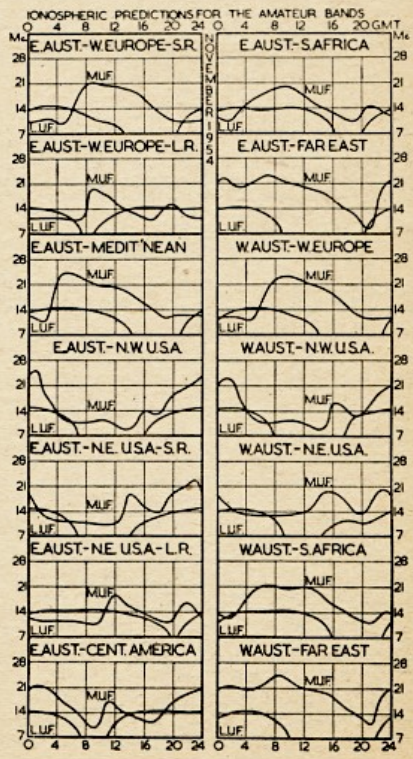
21 Mc.: Fred **2ID** worked **W6***, **K6***, **W6IWJ/Mobile***, **KH6*** and heard **HC1FX, JA, KG, DU7SV. 2AHH:** spoke to **4S7YL***. Norm **2ALJ** reports **W5***, **W6IWJ/Mobile***. Noel **2AQH** managed contacts with **W7***, **W5***, **W6***, **W8***, **W0***, **HC1FS***. Fred **3YS** worked **W5***, **W6*** and heard **AI3AO. 3YT** worked **W4***, **W5***, **W6***, **W7***, **KH6***, **JA***, **DU7SV***, **W6IWJ/Mobile***, **W-MM** stations* and heard **4S7, VS1, TI2, XE1.** Norm **3AXX** heard a long series of **W-MM** stations. **Jim Hunt** reports **W-MM** stations, **W6, W8, KA/JA, KJ6, KR6OH, KC6ZB, 4S7YL, VS1FE.**

27/28 Mc.: Consistent listening by **2ALJ** and Jim Hunt, sked attempts (with **DU7SV**) by **6DX,** and sporadic listening by **3AHH** did not show any result. However, **3YT** mentions three **W6s, KH6** as heard (no times or call signs given). Thanks for reports chaps!

Rare QSLs were received at **2QL: HC1LE** (7 Mc.), **ZK1BC** (3.5 Mc.). **2XZ: KP4CC** (7 Mc.), **KZ5GH, KR6AA, CR9AF, 4S7LB. 2AHH: KF3AB, 4S7SS. 5HI: MP4BBL, ZE2JE, 4X4DH. BERS195: CP1BK, FI8AV, SU1HS/MD5, VU7JU/MP4, VR2BZ/ZM7, YV5AY, ZB1TD, ZE3JP, 3V8AN. 3AHH: DU7SV** (3.5 Mc.).

Thanks to VKs 1AC, 2ID, 2PA, 2QL, 2XZ, 2AHH, 2ALJ, 2AMB, 2APL, 2AQH, 2AQO, 3CX, 3GU, 3HL, 3JA, 3PV/3APV, 3TE, 3TX, 3YS, 3YT, 3ZA, 3ADI, 3ALQ, 3AQJ, 3AXX, 4RW, 5HI, 5KO, 5RK, 6DX, 7DZ, 7KM, 7PM, and s.w.l's. BERS195 and Jim Hunt.

PREDICTION CHART FOR NOV., 1954



† Hans J. Albrecht, 10 Belgravia Ave., Box Hill North, E.12, Vic.
* Call signs and prefixes worked.
z — zero time—G.M.T.

FIFTY MEGACYCLES AND ABOVE

SPRING FIELD DAY

The Spring Field Day (3rd October) was an outstanding success, the message was passed from VK2WI in three directions—to the North, to the West, and to the South. The link through to VK3 was made by the Western route and acknowledgment received back in Sydney via the same route. The message was successfully passed to the end of the Southern route, but although VK3 stations could be heard, no contact was made. Later the Southern end of the link was extended to Barrington Tops.

The Northern link was broken between Muswellbrook and Armidale, but the link into VK4 from Armidale was open.

A link through to VK5 was established between Sydney and Adelaide via the Western route late on Sunday night when the message was passed through and reply acknowledged.

There was a VK7 link between Launceston and Hobart—7LZ, 7PF and 7LE—but were unable to contact VK3.

The activities for the day enabled the greatest number of 2 mx stations ever to take part in a field day to make some outstanding contacts.

Owing to the increased interest, it was necessary to re-draft the procedure outlined in last month's notes, however these were distributed in time to enable full details to be known before the 3rd October.

Full details of all contacts are not yet known, however longest distance contact was between 2YR/P at Mt. Conobolas and 3UI/P at Mt. Stanley. Other good contacts were 2HO/P at Mt. Gibraltar to 2ATO/P at Barrington Tops; John 2ATO/P used a very small portable with 0.2 watt input. 2AOA/P at Gunning to 2ANF in Sydney, with 2WH at Forbes, 2AJO at Coolomon, 2ZAA/P at Kendall, 2LG/P at Mt. Tomah, 2AGY at Newcastle, 2ABO/M at Bathurst, and numerous Sydney stations made many good contacts. It is hoped that next month it will be possible to list all stations that took part.

Perhaps next year it will be possible to co-ordinate a complete link up between all States.

It was pleasing to note that the Australian Broadcasting Commission gave the achievements of the day mention in their news session at 7 p.m. on Tuesday, 5th October, stating that Amateurs taking part had proved that a v.h.f. link could operate and provide means for Interstate communication if required.

Another feature of the day was the fact that in passing the message through to VK5, there exists a two metre link between Sydney and Adelaide with only stations operating from their home locations, such a link could be 2ANF, 2WH, 2AJO, 3ATN, 5BC, 5HD. As it appears that these stations have regular contacts without actually forming a link, maybe there are other links of similar nature.

It is the intention of the VK2 V.h.f. Group to record the discussions on the Field Day at the v.h.f. meeting when some very interesting information should come to light. It is hoped the recording will be available for distribution to those interested.—2APQ.

NEW SOUTH WALES

The September meeting of the V.h.f. Group took place for the last time at Science House, as mentioned previously, the future meeting place of the Group will be at the Petersham Technical College, Crystal Street, Petersham. The lecture for the meeting was given by Dr. Bob Black, 2QZ, his subject being Variable Frequency Operation on Very High Frequencies and a Frequency Meter for 144 Mc. Bob had two very nice pieces of equipment on display and explained how by using a crystal oscillator and multipliers to 45 Mc. and mixing the output with a 3 Mc. variable oscillator, it was then possible to triple to 144 Mc. with excellent variable frequency stability. The frequency meter used similar principles and both were very nice pieces of equipment.

Due to the usual meeting night falling on the holiday week-end upon which the Spring Field Day was to be held, the October meeting was brought forward and members were given a very interesting lecture by Mr. Vic Cole, 2VL, on Problems met in the Manufacture of Various Types of Condensers—a most interesting lecture dealing with construction methods of various types of condensers, difficulties met with in production, and inspection techniques. A follow-up to this lecture will be given at the November meeting, entitled Condensers and their use in V.h.f. Equipment.

During Sunday evening, 3rd October, the V.h.f. 2WI broadcast was originated from Mt. Gibraltar and was heard over a very large area. Reports were received from 2AGY Newcastle, 2ABO/M at Kurrajong, 2YR/P Mt. Conobolas, 2HL/P at Richlands, 2AOA/P near Canberra, as well as the Sydney stations. This was the largest coverage for the 2 mx broadcast yet.

Activity around the shacks has been mainly preparing for the Field Day with the result that several new pieces of equipment were constructed. Roy 2HO built a very efficient tx using an 832 final with a co-axial tank which gave excellent service during the Field Day. Cliff 2LG made alterations to his receiving equipment. Ted 2XX managed to have his new 50 ft. tower erected and a beam mounted enabling him to contact many of the distant portable stations.

Keith 2ZAA, who operated portable during the Field Day, was heard working several Sydney stations during his trip through to Newcastle. A new station welcomed to the band during the month was Barry 2ZAG.—2APQ.

VICTORIA

Some really exceptional nights have occurred for 2 mx DX in VK3, unfortunately they have only been of a few hours duration and only those active on the band have been able to participate. However, we can record the first contact between Warrnambool and Birchip when 3ATN and 3ANQ made contact. 3CI has been running regular skeds with 2AJO at Coolamon and a number of excellent contacts have already eventuated. Ray 3ATN at Birchip has also worked two-way with 2AJO at Coolamon, the distance being approximately 260 miles. 3ACE at Birchip has had his first Melbourne QSO with Fred 3YS. The Melbourne gang had a considerable set back this month with severe illness to 3BH, 3UG and 3ANS, however all are reported well on the mend.

This month's Fox Hunt proved the fact that the hound cars are getting well used to the hunts and their experience has resulted this month in not one of the hound cars losing contact with the fox car for any length of time and all were hot on the trail practically the whole night. On the only occasions the fox car's signal was missed, Athol 3CP, who was acting as control station, did an excellent job in putting the hounds back on the track. On the first run, the 3VZ-3IE combination were the winners, on the second 3ADU followed by 3YS-3ABA and 3VZ-3IE. On the third run 3YS-3ABA was first with 3ADU second. The final post mortem and get together was held at the home of the V.h.f. President, Herb Stevens, 3JO, and we thank Herb and Edna for their hospitality.

The V.h.f. Group meeting this month was a general one. Jack 3VZ gave an excellent lecture on his 2 mx mobile gear. He has done a masterly job in getting the complete tx, a coaxial line rx, a modulator and 9 tubes in approx. 12 inches by 4. This was followed by a lecture by 3LN on a dual converter on the one chassis, one being a 6BQ7A cascode followed by a 6AK5 into a 6J6 mixer with all tuned circuits coaxial lines.

It was resolved at this meeting to start a VK3 DX Hour between 8 and 9 p.m. each Thursday evening. This has been arranged to give the country stations the assurance that there is a reasonable possibility of Melbourne stations listening out for them during that hour. It will take a month or so to get organised so we would appreciate any country stations on the band during that hour to give publicity to the DX session.

The first field day for the season did not draw as many portables out as was hoped, but 3ZAA and Norm Dench at Mt. Macedon had an excellent initiation to field day technique with a very excellent score of 34 contacts. The others known to be out were 3UI, 3CI, 3JK and 3APF at Mt. Stanley. 3LN at Mt. Dandenong, 3OJ at Kilmore, 3ALY at Pretty Sally, 3ADU at Mt. Gellibrand and 3FO, who broke down just before reaching his location, at Arthur's Seat. However, the relay signal was sent from 3UI direct to 3BQ in Melbourne, who passed it to 3WI and to 3FO. 3FO's breakdown was most unfortunate as from Arthur's Seat it is a reasonably certain contact to VK7 under normal conditions. The greatest disappointment was a low cloud base over Melbourne and the west, and with a falling barometer such stations as 3ZL at Ballarat dropped out of audibility and this is a very rare occurrence indeed. No Western District signals were heard in Melbourne.

The next Fox Hunt is to be a special one when (we hope) participation of Parliamentarians, the A.B.C. and the Press is expected. This is in anticipation of a State Bill which, in its present form, could seriously hamper our activities in Amateur Radio.

3ALY visited Adelaide during a week-end recently and took his 2 mx mobile with him. He had excellent fun with the VK5s who were very thrilled to get through to VK3 on 2 mx.—3LN.

SOUTH AUSTRALIA

Congratulations to the participants in the 144 Mc. relay. Success is very sweet isn't it chaps? The links to the VK5 President were 2WI, 2YR, 2WH, 2AJO, 3ATN, Hughie 5BC and his brother Bill 5HD; thence via telephone to my portly 1 mx expert, who sadly passed it on to the present President. Power was not the criterion of the relay stations, but well designed beams were well to the fore. 5LE at Galga was also to have been one of the VK5 links, but no word from Bill about his activity. Hughie's letter arrived in time to publicise the relay over 5WI on Sunday morning.

Hughie reports that both he and 5LE can work 3ATN anytime that they like to turn their beams on each other and 3ATN puts such a good signal into "Murray Valley Heights" that the signal is still S5 on the back of the beam! 3ACE at Birchip and 3ATR at Warracknabeal also worked S7-8, so maybe a signal will eventually reach Melbourne for the first VK5-Melbourne contact on 144 Mc. 3HG at Coleraine also gave 5BC RST 449—note the use of c.w. on this band chaps. These few items should be an inspiration to us all in VK5 as there is no doubt that there is plenty of 2 mx activity in Western Victoria and sufficiently close for good contacts.

Had a visit from Claude 5CH last month and he reported that the S.E. was active on 2 mx with SCR522 tx's in much evidence. Quite a deal of interest shown by potential Amateurs in the limited licence, and Claude hopes to report, later, success by them in the coming examinations.

Whilst on the subject of 2 mx, G2MC has given some interesting details, in the August issue of "Wireless World," of a slot antenna reduced to a skeleton. The long long sides of the rectangular slot have been reduced to No. 8 s.w.g. wire, 37 inches long and these bolt into the two short 12 inch supports made from ¾ to 1 inch diameter tube. Feed is made at the centres of the 37 inch sides by a quarter wave stubb onto which any coaxial or open line can be matched. The polarisation is still the same as the complete slot antenna and the polar diagram shows a gain of 4 db over a simple dipole. Reflectors can be placed behind the structure and can be used to support the stubb and the "skeleton;" an improvement of 2 db results. Slots can also be stacked above each other or laid side by side, or at 90 degrees around the centre feed pole, which can support the whole structure. Resulting omni-directional patterns of the latter arrangement show an increase of gain over a single vertical dipole and should prove useful for a home base station in a Civil Defence Network.

Coming nearer home, on 50 Mc., Clem 5GL has been mobile with his previously described 6J6 rig and reports good success, but signals covered by generator noise. Charlie 5ON particularly noticed shadow effects from the steel car body. Glad to report that George 5GB has appeared on 6 mx again—getting the outfit fired up for the Ross Hull Contest George?

Ron 5MK well established on 6 mx and perservering with a 2 mx converter—eventually to become xtal controlled; albeit 5ZL also in the final stages of 2 mx tx and rx; as for my converter well, it's still a nice chassis Clem! Keith 5MT and Col 5RO plough along steadily on 6 and 2 mx—what about all the 576 Meg. units chaps? Haven't heard a whisper from a soul this month either about 288 or 576 Mc., so just one final reminder of the Ross Hull Contest: The trophy is a nice hunk of masonry to have around.—5XU.

WESTERN AUSTRALIA

50 Mc.: Few changes to report in the population here but activity has been fairly consistent especially of a week-end. Probably within a few days of the appearance of this issue, the first Interstate contacts for the season will be made. For those who are interested in the possibility of that VK-ZS QSO mentioned last month, the ZS boys operate between 50.0 and 50.25 Mc. with several on 50.00 Mc.—this from ZS1SW/VK6GU via 14 Mc. phone. John also reports that ZS1SW intends going portable on the highest spot in the vicinity sometime between Xmas and New Year, using 100w. and all the trimmings with power from a 1 kw. alternator.

It appears that it is seasonable to burn out h.t. transformers at the moment. 6GB and 6SJ were both greeted with that "dirty brown smell"

within a few days of one another. 6BO is still plagued with severe power leak interference which has been blotting out Sunday morning checks with 6DW at Bruce Rock; it being necessary to revert to 3.5 Mc. I don't suppose even the new crystal controlled converter will improve things, eh Rol? 6EL paid a visit to the "Big Smoke" recently and was immediately pounced on by 6FB and 6BO as a possible convert for 50 or 144 Mc. Seriously though, the approx. 300 mile path along the coast to Geraldton should provide some interesting openings, as 6FM will confirm by D.C.A's. v.h.f. results with aircraft, operating on that route. So what about it Ernie?

6FB talking about mobile transceivers on 288 Mc., but at present putting out a good signal from his 3 el. beam resurrected from previous activities in Mullewa. 6GU has given away the idea of putting the p.p. 807s on 6 mx, but that won't reduce the activity I trust. 6GB has been quite active once more, despite power supply mishaps aforementioned. 6CE has been doing some interesting experiments with two haloes stacked half-wave apart. Results so far are very promising, comparing well with a four el. beam, and what is more important, the array is completely omni-directional. 6WJ experimenting with 50 Mc. mobile operation. A 6M5 screen mod. with a vibrator supply and quarter wave whip has been supplying the signal; the rx has yet to be built. Last month's par re 6FM's antenna was cut down in print to a mere four over four! It should have been a four over four over four on 50 Mc., and should be in operation very shortly.

144 Mc. Despite the issue of the limited licence only two of the Z calls have appeared on the band to date—6ZAZ and 6ZAA. Cec 6ZAZ has had his 815 working as a power tripler, but was unlucky to strike a faulty 815. I believe a flock of L.A.O.C.P. candidates were successful at the July exam., so maybe that augurs well for a host of new calls to be heard shortly.

6AW pottering about with the 1143, but is proposing to press some 832s into service to improve p.a. efficiency. 6BS not heard of for some time, but should have his 522 going by now for checks with Manmanning—distance about 100 miles. 6JT still among the regulars on Sunday evening at 2000, and even 6RU put in an appearance a short time ago—shocked into activity by the appearance of 6AW! A new-old call heard was 6HC out at North Beach with a fine S9 signal at 6HK.

288 Mc. and Up: Things are very stagnant here though 6BO has spoken about trying a grounded grid "high tensionless' doubler to 288/576 using an 8012 as per "Short Wave" magazine. Time alone will tell if this is a success. Saw 6MK's very neat little tx for 288 Mc. recently. It's about time that thing came in for an airing Tom—and at least the b.c.i. might not be so troublesome.—6HK.

TASMANIA

Interest in v.h.f. continues to increase in Tasmania. 7WN at Tarraleah now has a cascode converter working and is receiving 7MY at Sandford—a distance of 65 miles over rugged country on 144 Mc.; at present 7WN is constructing a tx. 7AB has also staged a comeback and has a very efficient tx working on this band. The line-up is as follows: 6V6 c.o., 6M5 tripler, 6M5 doubler, 2E26 tripler, 832 buffer and a QQE06/40 p.a. The input is approx. 60 watts and the antenna a 5 over 5. Doug's frequency is 145.3 Mc. This set-up should provide the Tasmanian end for VK3/VK7 contacts in the near future, being situated right on Bass Strait.

Hobart stations now have an excellent chance of gauging conditions for 144 Mc. DX as the tx's now in use on Mt. Barrow (152 Mc.) are being heard consistently in the South.

The Tasmanian stations active for "Operation Centipede" were 7LZ Launceston, 7PF Evandale, 7AB Devonport and 7LE Mt. Wellington, although as yet all reports are not to hand it appears as though the distance to VK3 was too great. Here in Tasmania the Launceston-Hobart link was established through 7LZ, 7PF and 7LE. Neither 7LZ or 7PF heard any signals from VK3 and as no schedules had been arranged previously, this was considered to be the weak link as we may have been calling when the VK3 beams were in the wrong direction and vise versa. If any Victorian stations are wanting to test the Tasmanian-Arthur's Seat link at any future date, I would suggest they contact me previously so that schedules can be arranged and Tasmanian stations notified.

Although 7LZ was not heard by 7LE on Mt. Wellington or by 7AB at Devonport, 7LE heard 7AB calling 7LZ at 1010 hours. Although no contact was made, this should be easily rectified in future and this would make an excellent contact, the distance being 125 miles.

It is also expected that several new Tasmanian stations will be operating in the Ross Hull Contest this year.—7LZ.

ROSS A. HULL MEMORIAL V.H.F. CONTEST, 1954-55

RULES

1. The Contest will take place in the 50-54 Mc. band and will commence at 0001 hours E.A.S.T. on 1st December, 1954, and will continue until 2359 hours E.A.S.T. 31st January, 1955.

2. Only one contact with any one station per twenty-four hours commencing midnight E.A.S.T. to count as a scoring point.

3. Exchange of a serial number will constitute a contact.

4. The serial number of five or six figures will be made up of the RS (telephony) or RST (telegraphy) report plus three figures which may commence with any number between 001 and 100 for the first contact and which must increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 050, then the number for the second contact must be 051, for the third 052, and so on. If any contestant reaches 999, then he must start again 001 and continue as above.

5. **Scoring.**—Ten points for the first contact with any particular station, Interstate or overseas; 9 points for the second contact; 8 points for the third contact, and so on to the 10th contact for 1 point, after which no more scoring contacts with that particular station can be made for the duration of the Contest.

6. **Logs** shall contain the following information:—

Date, time (**E.A.S.T.**), call of station contacted, serial number sent, serial number received, points claimed for the contact, and at the foot of each page, total points claimed, and at the end—the grand total.

Logs shall be signed by the competitor, together with a declaration to the effect that the station was operated strictly in accordance with the rules and spirit of the Contest, and the decision of the Federal Contest Committee shall be final and binding.

Logs must be received by the **Federal Contest Committee, Box 1234K, G.P.O., Adelaide, South Australia**, not later than **1st March, 1955.**

7. Entries will be accepted from all States of the Commonwealth and Districts of New Zealand. Check logs from other countries would be appreciated by the Contest Committee.

8. The regulations governing the control of Amateur Radio in each contestant's country must be observed.

9. Awards:—

(a) For the purpose of Awards, Northern Territory will count as a separate call area.

(b) The outright winner of the Contest within the Commonwealth of Australia will receive an appropriately inscribed Certificate and, in addition, if a financial member of the W.I.A., will hold the Ross A. Hull Memorial Trophy for a period.

(c) The highest scorer in each call area in Australia and New Zealand will be awarded a Certificate. In addition, the Federal Contest Committee will have the right to make any additional Awards.

10. The decision of the Federal Contest Committee will be final and binding upon all matters pertaining to this Contest.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK3PG	5	3
VK2VW	9	3
VK4RY	2	2
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK2HO	17	1
VK2ABC	8	
VK2WH	15	

SPECIAL ISSUES OF "A.R."

In the near future it is proposed to feature Special Issues of "Amateur Radio" for the v.h.f., mobile and other enthusiasts.

The Technical Editor will be pleased to receive such articles so that these Special Issues will be bumper ones.

STOP PRESS!

Sth. Australia Wins R.D. Contest

The Federal Contest Committee has finally determined the winner of the Remembrance Day Contest, the result being as follows:—

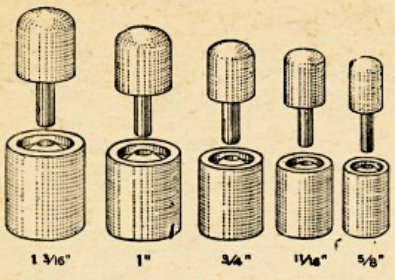
1st VK5 870.63 points
2nd VK6 848.35 points

They have been unable to determine the order of the other States as they are still awaiting information from N.S.W. and Victoria as to the official number of licensees in their States.

The Committee has been very careful in the checking of logs, because the margin between VK5 and VK6 was quite small—in fact logs from these States were checked twice to ensure that there would be no mistake in their decision.

The complete scores will be available for publication in the December issue with the Committee's comments.

"WILLIS" CHASSIS PUNCHES



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Red Line Power Transformers, 40 Ma. 280 volts per side c.t., 6.3v. 2a., 5v. 3a. .... **19/6** ea.

T.C.C. 0.003 uF. 400 volt Mica Condensers .... **5d.** ea.

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UM2	60	120	200 Ma.	**£9/17/3**
UM3	120	240	250 Ma.	**£12/2/6**
UM4	250	500	400 Ma.	**£28/10/0**

For complete details of Impedance Matching available with "Woden" Multimatch Modulation Transformers, refer to page 98 of the "Aust. Radio Amateur Call Book."

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Porcelain Egg Insulators (Guying use) .... **5d. ea.**
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Eddystone Cat. No. 946 Porc. and Glass Lead-Thru Insulator, 8/7 ea.
Eddystone Cat. No. 766 Co-axial "T" Dipole Insulator, £1/17/6
Eddystone Cat. No. 767 Co-axial "T" Dipole Insulator, £1/17/6
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Eddystone Cat. No. 1092 Frequentite Base for above **17/6**
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Belling & Lee L1221 Twin Screened 72 ohm Co-axial Cable, 2/1 yd.
Belling & Lee L600 Solid Dielectric 72 ohm Co-axial Cable, 1/11 yd.
Belling & Lee L809 Solid Dielectric 50 ohm Co-axial Cable, 1/11 yd.
Belling & Lee L336 Unscreened 72 ohm Twin Line Cable, 10d. yd.
Belling & Lee L692 Unscreened 300 ohm Twin Line Cable, 1/3 yd.
Belling & Lee L376 Lightning Arrester for Balanced Feeders, 15/9 ea.
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Belling & Lee L677P and L677J Line Plug and Socket for L692 (above) Cable .... **Plug 1/4, Socket 1/5**
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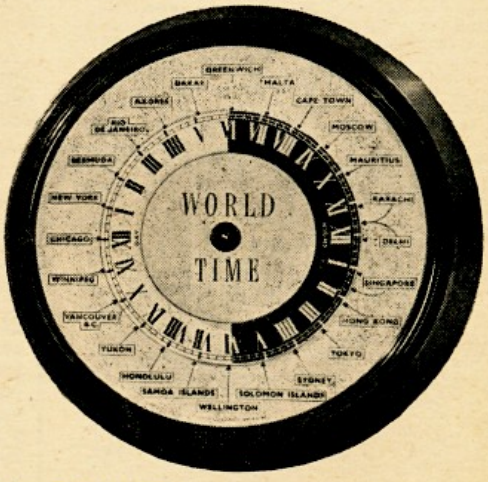

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FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

CHANGES IN FEDERAL EXECUTIVE

A recent amendment to the Federal Constitution has resulted in some change of duties of members.

Mr. George Glover, VK3AG, who previously held the position of Publicity Officer, has now become Federal Co-ordinator of Civil Defence Emergency Networks.

Mr. Max Hull, VK3ZS, is now Public Relations Officer, the position previously referred to as Publicity Officer.

Major Bill Mitchell, VK3UM, has taken over the duties of Business Manager.

If present indications are any criterion, these gentlemen will have quite a busy time in the near future.

In passing, it is pleasant to welcome Major Bill Mitchell back to Federal Executive. All will remember his stirling efforts as Federal Secretary some 4-5 years ago and how he helped in the early development of the Remembrance Day Contest.

MODULATION

The vexed question of reporting modulation quality has, in the past, been subjected to many variations and systems. Region 1 has made an attempt, which appears to have much to commend it.

Proposed RSM Code

The Lausanne I.A.R.U. Region 1 Conference in Plenary Session adopted a recommendation of its Technical Committee that A-3 transmissions shall be given quality ratings in terms of the RSM Code: R standing for Readability, S for Signal Strength, and M for Modulation Quality. The Committee recommended that the M rating shall comprise the following five steps:

M-1—Unintelligible modulation.
M-2—Defective modulation due to spurious or parasitic oscillations or to causes unknown.
M-3—Defective modulation due to frequency modulation of the carrier.
M-4—Defective modulation due to over-modulation.
M-5—Good modulation, not exceeding 100%.

The International Committee of the Region 1 Division adopted an agreement that any recommendation of the Division having world-wide interest be made a formal Proposal to Union Headquarters by one of the Societies in Region 1, and R.S.G.B. has therefore agreed to sponsor this proposal.

REGION 1 DIVISION

The following summary of the first International Amateur Radio Union (Region 1) Conference, held at Lausanne, Switzerland, in May, 1953, has now been submitted through courtesy of the R.S.G.B.

Both the Administrative and Technical Committees drew up a number of recommendations which were later adopted by the Plenary Assembly.

Administrative Committee

1. Issue of a questionnaire to all Region 1 in order to obtain detailed information concerning license conditions.
2. Appointment of permanent Liaison Officers as a contact between the Region 1 Bureau and each National Society.
3. Issue of a standard form of log sheet for recording details of persistent intruders in exclusive Amateur bands.
4. Inauguration of a Region 1 National Field Day.
5. A request to I.A.R.U. Headquarters to approach the Universal Postal Union with a view to a decision being reached that all QSL cards sent in bulk be carried at the "Commercial Paper" rate.
6. Notification of the establishment of Region 1 Amateur Radio Camps.
7. Consideration to be given to the number of International DX Contests with a view to a reduction being affected.
8. The collection of QSL cards by non-members of a National Society.
9. A request to R.S.G.B. to continue to act as the Region 1 Bureau Society.
10. The setting up of an International Region 1 Committee.
11. The establishment of a fund to enable the Bureau to continue to function effectively.
12. The establishment of a fund to enable members of the International Committee to attend meetings of that Committee.
13. The establishment of a fund to enable the Societies in Region 1 to send a delegation to the next I.T.U. Radio Administrative Conference.

In connection with Recommendations 11, 12 and 13, it was agreed that the amounts to be paid annually by each Society should be based on a percentage of the total number of licenses in force in each country.

Technical Committee

1. Avoidance of local contacts on the DX bands.
2. Introduction of the RSM Code.
3. Recommendations relating to FSK, FM, NBFM, SSB, Remote Control of Models, and Amateur Television.
4. Recommendations relating to TVI.
5. Appointment of VHF Officers.

A Constitution for Region 1 Division has been drawn up by the International Committee consisting of the following: Chairman: Capt. Per-Anders Kinnmann, SM2ZD; Vice-Chairman: W. J. Daljmin, PA0DD; Hon. Secretary: Arthur O. Milne, G2MI; Members: John Clarricoats, G6CL, Reg. H. Hammans, G2IG, Harry Laett, HB9GA.

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FED. CONTEST COMMITTEE

The Contest Committee meets on the last Tuesday of the month and to date has been putting in a deal of good work in quite a number of directions. The meeting this month discussed the R.D. Contest in the light of the logs received, and had a general discussion on the methods adopted in checking and the allotting of points. The members co-opted for the purpose of checking have been informed of the decisions of the Committee on the methods to be adopted in marking the logs and it is felt that the final result will be satisfactory to all those who took part.

The members who have been checking the logs are Brian 5CA, Reg 5RR, Jim 5FO, Frank 5KQ, Bruce 5OR, John 5WY, Joe 5JO, Jim 5PM, Reg 5QR, Rex 5DO, Jack 5JD and Gordon 5XU, who is the Chairman of the Contest Committee.

It will be seen from this imposing list that we have not lacked helpers and when you see that between them they have had seven meeting nights, two of over four hours duration, and all a total of 29 hours on the job, then I think that we owe them a debt of gratitude that cannot be expressed in words alone. Jim and Reg made the checking easier for the boys by putting in a lot of preliminary work and I can say without fear of argument that both of these chaps have done a sterling job for VK5.

The result of the Contest is, at the moment of writing, still up in the air between VK6 and VK5, and another couple of nights will have to be spent yet before the result is definite. I can say now, that whichever State wins, it will only be by the odd few points, in fact, so close is the finish, it means that a careful re-check will have to be made of the logs to decide the winner.

I am not going to apologise for the extra time taken to announce the winner, because never before has it been so close as this year. Anyway, enough for now because the Contest Manager will be making his report on the Contest and I don't want to steal his thunder. If I had not seen the logs I would not have believed that it was possible to see so many mistakes on paper as I saw during the checking. I could go on all night telling about the foolish things that were written on the logs, all unintentional, but all making it harder for the checkers.

As an example, one contestant had over 100 contacts, yet he only put on paper one contact for each State and let the rest go to pot. This, of course, meant that all the contacts not logged were out of order, although it was obvious from the other logs that he had had the contacts. I don't think that I am giving any secrets away when I say that the Committee agreed that it was only fair to count all of his contacts as it would be unfair to penalise the unfortunate contestants that he left out. In fact this was the guiding rule for the checking, when any doubt arose, give the benefit to the station that sent the definite set of numbers.

I say without hesitation that the Contest was handled by the Committee from the viewpoint of the principle behind the Contest and the true spirit of Amateur Radio, and after all that is as it should be.

By the time this splurge sees the light of day in the magazine you should have seen the rules for the Ross Hull Memorial Contest, and they are submitted as an honest attempt to promote a Contest that will appeal to the majority. We make no excuses for it, in fact if anybody is not satisfied with them, then all we say is, have a go yourself, and if you don't want to do that, then pull your head in. If, however, you have any concrete suggestions, send them along to us and we will give them all the consideration that they deserve. We are here to do a job and will appreciate your assistance, but unless you are prepared to give us constructive, and not destructive, criticism, then we are not interested. The boys are not giving up hours of their spare time to attend meetings only to be shot at, and I think that you will agree with this outlook. See you in the next Contest!

—5PS, on behalf of Fed. Contest Committee.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

An interesting illustrated brochure, describing the birth and growth of the Australian Flying Doctor Service, accompanies the QSL of VK4CV, Charleville.

To the moment of writing, I have had no response to last month's par. requesting the whereabouts of OA2RB, R. E. Beljon, who was located at Lithgow around 1925-1927. The information is urgently required.

One of the most interesting QSLs ever handled at this Bureau, is one from KF3AB, located on Fletcher Ice Island, T3 in the Arctic, confirming a QSO with Chas of VK1AC on Macquarie Island. In a letter accompanying the QSL, the writer, Lloyd Hull, claims that the QSO is a record as no other pole to pole contacts have previously been made. While the Ice Island was near the North Pole, the occupants had some visitors in the shape of Russian airmen who flew over several times at a height of fifty feet.

VS2DV, the QSL Manager for Malaya, is going on leave to the U.K. and the duties will be undertaken by VS2DQ, J. Pershouse, and the Bureau address will remain as Box 600, Penang. OM Pershouse is ex-ZC1AL. He mentions that many Malayan Amateurs are commenting on the lack of cards from Australia. He personally has sent 150 to VK and to 22nd September had received only 24 in return. He cites that the percentage of returns with ZS is 94 per cent. VK does not show up too well in these statistics and comparison. He mentions further that VK1HM/ZC2 will be permanently QRT about end of October. The Malayan gang are endeavouring to persuade him to take a trip to Malaya. An invitation is extended by VS2DQ to all VK Amateur servicemen in or visiting Malaya to drop in and see him, writing first to J. C. Pershouse VS2DQ, Baling Estate, Kuala Ketil, Kedah, Malaya. His XYL will be glad to offer hospitality to any such visitors.

A fair sized package of cards has just been received from the LU Bureau. Practically all of the cards refer to QSOs from 1950 to 1952. Just where have they lain during this period?

Geoff Warner, VK9GW, who has been touring in the U.K. for some months, forwarded a bundle of cards for VK9, which had pursued him to London. Geoff popped in a note to say he is returning to VK2 in October. He adds that he is well and having a fine holiday and has seen quite a few countries that he couldn't work.

Fears expressed in a par. last month that the lack of cards would soon put me out of a job were short lived, as cards trebled during September. With DX band openings already enjoyed during early October, plus the VK-ZL

MY XYL SAYS!

WHY is it that there appears to be so many twins operating an Amateur Station these days?

My XYL says that they must be twins because they say on the air, "We are using this," and "We are using that," or "We will QSL," in fact it is We, We, We, all the time, yet only one name appears on the QSL card.

My XYL says that she always feels sad for the other half of the twin who never gets a chance to sign his name.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

—OIGLE.

Contest, it looks as if the QSL Manager has weathered the "depression."

Treb, BERS195, who, despite strenuous assertions to the contrary, appears to embrace opportunities to go roaming, is relieving in Launceston until the end of October. Treb, who has never missed a VK-ZL Contest since their inception, will not be a participant this year as the location where he is living does not permit of such pleasures. Eric, in an attempt to play down my FW8AB QSL, says without fear of contradiction that he has the only VR2BZ/ZM7 card issued to Australia. States it is a nice pictorial effort by Bari showing the party leaving the shore for final time en route to the flying boat. Bari stated he did not work any VK stations from Tokelau and this disposes of various claims to having worked him. Bari also states that he may go there again before the end of November—he retires from the Air Force early next year and will don civilian garb for good.

Treb also gloats over two other QSLs recently received, FO8AJ/MM—the ship, not the island—and G3JFF/MM. The latter is Leading Tel. Mike Matthews aboard aircraft carrier H.M.S. Triumph. Mike's picture QSL is a fine effort. He uses 150 watts on 7 and 14 Mc. to a long wire. Treb heard him on 7 Mc. with ship near VP6 and on 14 Mc. with vessel off St. Lucia.

Henry Smith, CP1BK, a real globe trotter, who was until recently very active in La Paz, Bolivia, has now returned to the U.S.A., and is located at 1035 Circle Drive, Las Cruches, New Mexico. He would welcome outstanding cards, both for his CP1AA, CP1BK and D4ADS operations. Pre-war, Henry was CT2BK, and from Portugal contacted many VK stations under that call.

Ted Jones, G3DIY, of Penzance, Cornwall, in a QSL to a little known listener in Melbourne, says he visited Melbourne in 1924 as a W/T operator on H.M.S. Hood and well remembers seeing Seymour Hicks in "The Man in Dress Clothes" at the Princess Theatre, also a visit to a small village, as he puts it, on the outskirts of Melbourne. No, he does not refer to "Box Hill," he means Warburton.

David Boffin, well known to VK DX men as AP5B and VU2HS, and more recently as SU1HS/MD5, is a passenger on the new liner Iberia, due in Melbourne late October. His itinerary is not known as yet.

Well known DX station 4S7XG has returned to England and asks VK and ZL friends to look out for him under the call sign G3HVG.

A very interesting QSL also received by the abovementioned obscure Melbourne listener is from the Dutch ocean station vessel "Cirrus," operating on the Amateur bands as PI1LS. The vessel is anchored in the Atlantic Ocean at 56 North by 23 East. QSLs should go to the Training Section, Communications Dept. of Netherlands, Aeronautical Service, 3 Kanaalweg, Gravenhage, Holland.

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NEW SOUTH WALES

The general meeting of the N.S.W. Division of the W.I.A. was held on 24th September before a disappointing audience, who, incidentally, had a very good evening due to the efforts of the Council and Frank 2QL. The meeting was opened by the President, Jim 2YC, who welcomed the visitors to the meeting—ZL1WW and 2XN. The minutes were read by the Secretary, no business arising out of their reading.

It was announced by 2YC from the chair that we can look forward to the Woy Woy Convention which is being held this year at Woy Woy on 21st November with the headquarters at the Masonic Hall which is placed close to the railway station. Registration will commence at 10 a.m. and a full programme has been arranged by the committee which will adequately cater for the OM, XYL and kiddies, or YL, so keep the date clear and set your course for the Watery Wonderland, a good road and plenty of trains are available.

Mention was made of the efforts that the S.W. Zone members are making to pioneer a link on 144 Mc. with VK3, VK4, VK5 and VK7; the very fine work which has been performed in this zone received the commendation of all at the meeting.

Perce Healey made an announcement that all future meetings of the V.h.f. Section will be held at the Crystal Street Technical College, Petersham, very handy to transport by train, tram or bus; these meetings taking place on the first Friday of each month. Interesting lectures have been arranged for the future.

The two notices of motion, details of which appeared in the Bulletin, were placed before the meeting and were passed with little comment. Only two volunteers came forward to debate the question of higher power and the matter was therefore shelved for the present and Council would like to hear from all those interested in this question.

Frank 2QL, at short notice, arranged to fill in what time would have been devoted to the debate with some fine films which were very well received by those present; a vote of thanks being afforded to Frank.

Mr. Corbin pleaded from the chair for members of the Division to supply technical articles for publication in "Amateur Radio," all such articles must be sent in via your Divisional Sub-Editor to ensure their correct routing and avoid any undue delay in their publication.

The question of slow morse transmissions on 144 Mc. was discussed and on this matter Council would like your views, no doubt limited licence holders would appreciate such transmissions.

The annual Hamfest of this Division will be held in January on a date to be fixed, so watch this column as by next month more definite details will be known.

The next meeting of the Division will be held on 22nd October, Science House, Gloucester St., the venue, so roll up for an informative evening and meet some of the chaps you talk to on the air.

SYDNEY SUBURBS

2FA is recovering from his illness and can sitll get through to Europe occasionally; made a fine effort in the VK-ZL Contest despite putrid conditions. 2AKV, a little out of town, has his troubles: a sore finger—held it under a drum of petrol, cranky modulator, and a beam which seized up, forcing him to put up the vee beam again. 2NO heard on occasionally and methinks will break into the v.h.f. region soon. 2APT putting out one of the largest sigs heard this side of the black stump. 2AEK and 2NJ—tape recorders. 2OQ is back again with a beam 12 feet off the ground, gets over to OH on phone quite nicely.

2AJQ has deserted Sydney for Bathurst, so we may get some notes from the West yet. 2ATW still gets around with the assistance of the beam and the ground plane; is always good for a yarn when you can catch him. 2ID now has a 2 el. on 14 Mc. and 3 el. on 21 Mc. and is looking for contacts on that band; trained for the recent contest on one oyster! 2AQH heard quite frequently from Blacktown; nice transmission Noel. 2ACI is on antenna number 174, that one not much good either; put up a beam Hec. 2ACD had a party at Frog Hollow recently when the telescopic beam support went up, ably assisted by the gang—2YI, 2FM, 2OQ and last but not least 2APT, who was watching the peach blossom. 2AGW getting through to Europe occasionally, nice work Bert.

2AZN is still building that rx and making a good job of it too by all accounts. 2HK heard rarely, busy with other things. 2AWN heard on again, hope the health is OK Vic. 2VG left recently for JA land, not heard of since; will also visit VS6 later. 2ASU is experimenting with antenna and is putting out a better signal. 2DA heard late at night usually, has other activities such as business. 2JP not received the car as yet, is enjoying his retirement doing some of the things he has always planned to do; like 2QR, heard only occasionally. 2BG quite inactive. 2AAH moving soon, still in same suburb though. 2AEA will soon be heard with new call with the numeral 1 from Mawson; will be looking for contacts with you Bob. Advancing years take the toll of even an Amateur, Alex 2FM has had a try out on bowls recently, may yet chase kitty instead of DX. 2AGU heard again, was afraid his D104 may have dissolved, anyway VS6BE is not a bad comeback.

NORTH COAST AND TABLELANDS

Zone Officer has been very busy of late with little time for the local net, so news is rather scarce this month. Had a few goes at the contest, but apart from having visitors suffered from the ravage of conditions. Noel had one good afternoon on 20 mx recently, worked 28 countries in 150 minutes. 2APS visited Kempsey in new car, APS-000, not bad. Another visitor, 2AVG, en route to Port Macquarie to visit 2PA who is working his share of DX. Pete was in Sydney on business and visited 2FH. 2RK had visit from 2JZ, 2ADT and family camped at Urunga at "Do-Me" for school holidays, worked portable on 80/40 mx. 2ALM at the Port started up on 80 mx again after many years.

2RK having modulator trouble and is playing with SCR552. 2VK at Tweed Heads did a very fine job of demonstration of Amateur Radio to the local R.S.L. using Type 3 Mk. II. on 80 mx, nice work OM. 2ZY active on 144 Mc. from Murwillumbah, had QSO with 4EA and 4AB; Bill had 150 contacts in R.D. contest. 2ALF is at Mullumbimby these days; hope to hear you on soon when you have shaken the dust of Sydney off the feet. 2AHK now at Ballina, moved from Dorrigo. 2AHH has received a letter of thanks from N.S.W. Police Department in recognition of the excellent work he did in the recent flood emergency.

SOUTH WESTERN ZONE

News is scarce this month (appears to be the case in all areas), maybe the boys are cooking up something. Keith 2KJ is a new call at Wagga; hope to work you soon OM and welcome to the zone from us all. Activity on 144 Mc. in this zone seems to be increasing with 2BQ, 2PN, 2ZAA, 2RS, 2BW, 2AJO, 2APZ—the latter in the process of getting going. Ray 2APZ is building a lattice tower to support 144 Mc. beam at about 50 ft. Things are well in hand for the South Western Zone Convention at Tumut on 30th-31st October. Programmes have gone out to most Amateurs and we hope to have a good roll up. We also have in hand some very good trophies for the events at the Convention.

HUNTER BRANCH

Twenty-two members were present at the September meeting of the Hunter Branch, and among the visitors were Dave 2EO and Mr. Middlehurst, Principal of the Tighes Hill Technical College, where this meeting was held. Three films were shown and after Branch business was concluded, Max 2OT lectured on "T.V. Receivers," and used a t.v. receiver and photostat copies of waveforms to illustrate various points of his lecture. Max also gave a demonstration of some forms of t.v. interference and gave some hints on its eradication and the t.v.i. proofing of tx's. This lecture has only wetted the appetite of members for more lectures on this subject and the Branch Committee is endeavouring to arrange more lectures of this type.

A letter from Lionel 2CS, expressing his intention of resigning from the Presidency, was read to the meeting. After considering and discussing the reasons given, the meeting passed a motion of confidence and support for Lionel. At a later meeting called on 22/9/54, held at 2XT's establishment, which Lionel was unable to attend owing to illness, a further vote of confidence was passed with a request that Lionel be contacted by telephone. He expressed his willingness to withdraw the letter of resignation, so the Branch will again see Lionel in the chair at meetings. Councillors Bill 2YB and Charlie 2AWQ arrived before the meeting closed and during discussion small differences between Council and the Hunter Branch were successfully ironed out.

The next meeting of the Hunter Branch will be held at the Tighes Hill Technical College at 8 p.m. on 12/11/54. Films and a lecture for the education of members have been arranged. Listen for the Branch hook-up each Monday at 8 p.m., on 7093 Kc. with 2AWX as the control station.

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VICTORIA

The major Division held their monthly meeting at the usual place on Wednesday, 6th October. About 80 members and friends were present, 75 of whom were interested in the official activities of the evening. The other five held a separate meeting at the back of the hall. These persons, never having read "The Amateur's Code," are not aware that they are expected to act as gentlemen; they certainly "used the air for their own amusement in such a way as to lessen the pleasure of others." If any of the five reads this, don't think this is my personal view only, quite a number of those there expressed similar sentiments after the meeting. In fact you were given several strong hints to "pipe down" during the evening, but it took two hours to sink in. Let us hope we see you again when something of interest to you is on the agenda, but in the meantime, if you want to hold a discussion among yourselves, for Pete's sake, forget your DX for a night and put a little life in to one of our bands, and give everybody something to listen to.

The 75 heard a series of hints and kinks from 3AHH, 3LN, 3AG, 3ZS, 3YS, 3GU and several others without calls. I shall not outline any of their ideas here as we are hoping to coax them to put them on paper so they can be published in the magazine.

Council has decided to remove the "Philoscope" from the restricted list and this piece of equipment is now available to members for use in their own shacks on payment of a deposit of £2. Various reports were given to those present and, all in all, everything seems to be satisfactory. There may be one exception, that is the lack of agenda items for the Convention. If you have anything you would like to have discussed, drop a line to the Secretary for inclusion. **Do it now!**

We acquired four new members during the month, one full and three associates, but as the local QRM prevented me catching all the names, I cannot list them. Anyhow, the usual welcome fellows.

If the VK5 scribe is in any doubt about the major States getting television, suggest he listen to them discussing ideas for their new t.v.i. proof rigs. Real progress over here "Mogobo-Mugumbi." Whilst addressing you, M.M., I did not add the footnote to your notes last month, your Ooompus-Boompus backfired. Ha-ha-ha. Laugh that off Parsons!

Amongst the visitors during the month was George 3AHN and his 2nd op. George is build-

ing gear to go in the Land Rover and hopes to be all set to go at the Convention, although the main idea is to have equipment for C.D.E.N.—most commendable. About time 3AHC tried the Type 3 in the Customline—wot about it Harold? Have a nasty feeling I may be wrong about the Hon. Fed. Sec. Heard him on twice during the month. Sir, are you neglecting your duties?

We were all very sorry to learn that Ron 3ARV suffered the loss of his father during the month. We extend our sympathies on this sad occasion.

Very happy to report that Charlie 3BH is back in circulation after his spell in hospital and is now as chirpy as of yore. We have in the Listeners' Group two young fellows who are students at the School for the Blind. These lads are as keen as mustard and very badly want to find an "S" meter that they can use. If anybody has any clues on such a device, would they please contact Ron 3RN, or myself, and steps will be taken to put such a device into their receivers.

These Tx Hunts are becoming a farce and I suggest that 3ADU and 3VZ be handicapped to give 3LN and the rest a go. What about having them change at least two wheels between starting and finishing. (How am I doing Len?) I'm only joking fellows, so put away the guns, but I'd sure like to know what secret system they have found that has eluded everybody else.

The next meeting will be held on 3rd November, when the members of the V.h.f. Group will give a series of lecturettes, presumably on v.h.f. equipment—elementary my dear Watson—and it is anticipated that a super roll-up will take place. The 288 Mc. gang in particular are invited (excluding 5PS) as their doings would like to be known. (No charge for this plug Len.) Now for some news of—

LISTENERS' GROUP

On Tuesday, 28th September, at 2000 hours, the members of the VK3 S.w.l. Group met in the Clubrooms, 191 Queen Street. Meeting opened with President, Len Poynter, in the chair and 36 members residing. Also at the meeting were Arthur 3AHD, Ron 3OM and Col 3FO. We would like to welcome the following new members to the Group. They are Tom Osborne, Peter Neilson, Mike Ide, Raymond Bedson, Jeff Morris, Arnold Holst and a friend from Dunolly, Victoria, Arthur Crouch. Good listening chaps and 73 to you Arthur. Hope to receive some fine logs from Dunolly some time in the future.

It was decided to form a Contest Committee comprising Jim Ferguson, Bill Williams, Len Poynter and John Wilson. Any member or interested Amateur who has any ideas regarding suitable contests for s.w.l's., please send them to any of the Committee, via the Institute, or to me.

At the conclusion of the general business, Ross Macrae, of Burwood, demonstrated his 4 tube rx which he brought along for all to hear and see. The rx has 4 tubes and is a t.r.f. set comprising 1852 r.f., 6SJ7 det., 7C5 audio and 7Y4 rectifier. Both appearance and operation of the rx were of excellent quality. Many thanks for bringing this set along Ross. On looking through my index system, I see that Ross has a 13 tube super covering all bands and he is very interested in 20, 40 and 80 mx. Hope to have some fine reports from you soon Ross.

At 2130 hrs. 3WI was put on the air with Arthur 3AHD at the controls. After much confusion, the rig was warmed up and ready for sigs. Col 3FO gathered together three or four of the boys and took them down to the car and went mobile on 6 mx. Ron 3OM did likewise on 40 mx and the fun was on. The boys received a kick out of speaking over the mike, especially while mobile. At 2245, the boys departed home very happy and excited after having made their very first Amateur contact. Hope that there will be a lot more sessions to come boys.

News on the Bands

Broadcast Band.—Dave Rankin states that 1YZ Rotorua, New Zealand, is audible on 800 Kc. at 0930 G.M.T., but a VK5 b.c. station is on the same frequency and this makes copy difficult. 2YA Wellington, N.Z., is on 570 Kc. at sunset and is quite strong. No QRN, etc. This station QSLs, as also do 3GL, 3SH, 3HA, 3MA, 3YB, 2QN, 3GZ, 2DU and 4BC. Inclusion of return postage makes sure of a quick reply.

Broadcast S.W. Bands.—From the Canadian Broadcasting Corporation I have just received their latest programme schedule and frequencies. Included in this is the information that at 0845-0945 G.M.T., with beams turned on Australia and New Zealand, English programmes to listeners in the South West Pacific area are transmitted on Sundays and Wednesdays only by CKLO on 9.63 Mc. (31.15 mx) and CKNA on 5.97 Mc. (50.25 mx).

Stations and frequencies are as follows:—

	Mc.	Metre		Mc.	Metre
CKNC	17.82	16.84	CKLO	9.63	31.15
CKCS	15.32	19.58	CHLS	9.61	31.22
CKCY	15.19	19.75	CKLP	9.585	31.30
CKLY	15.09	19.88	CKRZ	6.06	49.50
CKEY	11.90	25.21	CKNA	5.97	50.25
CKOL	11.72	25.60			

Amateur Bands, 15 Mx.—Only a couple of locals heard during the VK-ZL Contest.

20 Mx.—This band comes good at times. Dave Rankin heard TI2AKL (P.O. Box 133, San Jose, Costa Rica), TI2DLM, ZL3WH, HK3PC (Post Office Box 3418, Bogota, Columbia), KA2AK, YV1CB, HC1LW, TI2GC, KJ6AZ, KZ5GH, ZS5DE, ZS1SW, HC4MB, KA0IJ, I1CQV, JA3BB, JA4AF. I heard at my location a couple of TI2RC, TI2NA, KA2NY, KA2KM and a few ZLs. From Gerard I received the following list of 20 mx signals heard. They are W6JCY, ZM6ART, KH6WB, KH6AFJ, KA2FC, KR6SU, KA2HA, OH2RE, VS2EB, VK9SP.

40 Mx.—Heard a very interesting round table of Ws on s.s.s.c. Call signs were W0QV, W6NAG, and W6NTV. Also heard on this band were W1ATE, DU1GF (P.O. Box 356, Manilla), JA1 AAW, ZL2HT, ZL2QN, ZL2AU—all on phone. J. Garnet reports the following: 3AIX, 3LG, 5WC, 3AFL, 3BC, 3ALK, 3JR, and 3RB. John listens on the domestic b.c. set; good listening John.

80 Mx.—This band has quite a few locals and ZLs, but on some nights noise becomes high.

I would like to thank the following chaps for forwarding me their log sheets: Dave Rankin, Gerard Lane, John Garnet. So chaps keep your logs coming in for I must have them by 28th of each month. Please forward them to me, John A. Wilson, 37 Rayment St., Alphington, N.20, Vic.

Any Amateur who is willing to demonstrate his gear, give lectures or talks or arrange a visit to his shack, please contact me at the above address or phone JW 5885. Your services would be greatly appreciated. So until next month, good listening chaps.

The next meeting of the Group will be held on Tuesday, 30th November, at 8 p.m. in the Clubrooms, 191 Queen Street.

CENTRAL WESTERN ZONE

The notes this month will be abreviated due to your Secretary being in a near flat spin at present, organising our Convention, which is only two days off. Byron 3TA is now sporting a 16 el. on 2 mx and has had some good contacts over a long distance. Even Syd 3CI puts in a good signal, which is quite remarkable considering the type of intervening terrain, not to mention the 200 odd miles. Dick 3RR last seen heading up Sunraysia way to compete in a reliability trial.

Wednesday's hook-up included eight stations. Keep this up chaps and hope you will give the new incoming Secretary all your support for the next 12 months. I would like to thank you one and all for your assistance during my term as Secretary.—3AFO.

NORTH EASTERN ZONE

We congratulate Doug 3IJ on his appointment to a position at Hobart Airport and hope to hear Doug from time to time as we now hear from Rex 3UR since he has settled in Bendigo; Rex keeps abreast of personal interests in Benalla by working with Ken 3KR. During the mast-raising operations at Mangalore, one of the masts fell on 3CI with, fortunately, only superficial bruising, but in the resultant confusion the party overlooked Keith 3JC, pinned to the ground by the mast lying on his arm; however, except for bruising, all ended well. Doug was able to lower the masts with the same help without incident. Peter 3APF and Alan 3UI were in on the mast lowering job also.

Lex 3AIL is keeping active and Vic 3ABX also is using the ether. It is understood that the party went to Mt. Stanley, as mentioned last month, and Jim 3JK was reported working mobile. Chas 3ACW was seen but not contacted recently, and Des 3CO is also about, having recently returned from annual leave. Jack 3PF, Hugh 3AHF, and Murray 3HZ have not been heard of lately, however Les 3ALE is back on the air after a month in hospital, as is Des 3BP after modifying his rig.

Alex 3AT regretted that he could not join the September hook-up, and it is understood that Howard 3YV is not so well; we therefore wish him a speedy relief from his affliction. Jack 3AKC has changed his field of endeavour in Wangaratta, and quite a little has been heard from some of Henry's 3HP keen followers up round Springhurst. Col 3WQ was coaching Associate Vern hard for the A.O.C.P. exams, but nothing has been heard of Associate Clarry, and the recent opportunity of hearing of Associate Jim at Miepoll was missed.

Stan 3AGT is like Tom 3TS and George 3GD being not obvious, but probably a listen on the air at the right time and frequency would bring them into the news. It is reasonable to assume that Frank 3ZU has not settled in at Yarrawonga yet, and Ron 3AQG has not been in evidence either. It is understood that some of the activities of Johnny 3ACK were not correctly reported recently, but Johnny must be sticking to his photography as he has not been heard recently.

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QUEENSLAND

This month I offer congratulations, and I know each of you in the Division join me, to one Tom Athey on his attaining at last his call sign 4UT. Tom has striven hard to get it and one must admire him for his tenaciousness. This alone must be an inspiration to those of the fraternity who have given up hope with the battle only half won as it must be nigh on seven years since Tom first sat for an exam, and many since, each time being bogged down by the old boggy of many morse codes. On that, Tom, we, of this Division, and maybe all of the W.I.A., welcome you to the ranks of transmitting members, and say good luck.

Another bright spot was the improvement in conditions for the DX Contest phone section, when paths opened up to all continents and gave participants a chance to get some sort of a score. By my observations, it seems as if the honours for Queensland could be between Jack 4SF and Keith 4KS, as they were putting up a rare battle towards the end. Some southern competition was very strong.

It was a surprise to many when that phony sounding call sign X1NP card arrived as most were sure he was a pirate. Frank 4ZM was most surprised as he received two cards. At least it must have given Jack 4JF a lift as he has been bemoaning the scarcity of cards over the last few months, coming through the Bureau.

Our September meeting saw Bill 4YA take over the duty of Secretary as Ernie Moore's health forced him out of the job. I think Bill will have all complaints cleared up ere this is out. Vince 4VJ gave an interesting lecture on game fishing, expounding the differences between catching the biggies on 24 or 48 strands, and had much difficulty in keeping the hands at a reasonable distance apart. After landing Clive 4CC on a 20 lb. line, it looks as if he has landed a few more converts to the game, though the 20 ft. shark who wouldn't go away makes one wonder.

Amongst those present was 4DG from Quipie, who blushed at the thought of being termed a visitor. John 4FT seems to have all the luck, by winning the call book raffle. The ballot for the AT5/AR8 went to Rod 4TF of Boonah.

Clive 4CC requests that anyone who has news of interest—past- present, or in the future—forward same to him for tabulation and compilation of a record of Amateur doings. Clive has also been chasing morse tape machines and in future hopes to have slow morse on 4WI for beginners.

Brisbane Amateurs have been taking things quite lately and except for a few like Al 4SS and Frank 4ZM, 14 Mc. is dead; have heard Jack 4JF, John 4FT on 3.5 Mc., while Jim 4OB is in the middle of building a rig for 144 Mc. Jim 4PR, of course, has put dishes first seeing as there has been no DX. Bill 4YA is still looking for a few more pieces for his beam.

No news from Ipswich, but Gympie informs me things are quite up there. Barry 4LN not heard on air, and is still thinking of putting up a 7 Mc. antenna until he gets a pole up for his 14 Mc. beam; he is trying to dispose of the battery version DR106. Col 4CR has fixed his bias pack, but shortage of operators at the local b.c. station has him hopping, filling in, and with a new high power rig on its way, leaves Col little time for Amateur Radio. With the eight Amateurs in the Downs hook-up, there seems to be quite a lot of interest in 50 and 144 Mc., but have heard of no skeds or such. Looks as if 144 Mc. and higher might get a nudge in Gympie as a s.w.l. up there has ideas on the limited ticket and thereby enthusing the others. Rumour has it Jim 4HZ is in a spot with his grid dipper as his rx doesn't agree with his wavemeter on its calibration, though the 52 Mc. tx checks OK. Now Jim is airing out his problem on the air and looking for the answer, so watch the wax if Jim gets you in a QSO. Maybe it's spurious signals in the rx Jim.

Well this is all for now chaps, would sure like to see you at the general meetings sometimes. As for a thought for the month, would refer you to the opening paragraph.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held in the club rooms to the usual representative gathering of members and visitors. The guest speakers for the night were Mr. Clem Tillbrook, 5GI., and Mr. Kempster (an ex-G) and their subjects were crystals and ceramics respectively. Clem discussed in his

usual entertaining and instructive manner the general methods of cutting and collecting the crystal wafers, etc., and also discussed at length the method adopted in checking the ultimate frequency of the crystal. He covered his subject extensively and with a wealth of detail which was indicated in no uncertain manner by the number and intelligent nature of the questions asked by members at the conclusion of his talk.

Mr. Kempster then took over and gave a general history of porcelain and ceramics from the viewpoint of insulation of radio parts, and illustrated his talk with a comprehensive collection of radio parts made from the subject of his lecture. Again the lecturer did a splendid job and the questions asked by members at the conclusion of the talk should have amply rewarded him for the undoubted time that he spent on the preparation of such an interesting subject.

Brian 5CA proposed the usual vote of thanks which was enthusiastically received by all present. Among the welcome visitors were D. Harkin, 3ADJ; "Mac," 5CE; D. Good, A. West, M. Rohrlach, A. Wood, and C. Carmody. We extend a hearty welcome to these gentlemen and hope to see you all again some day.

An unexpected member to attend was Frank 5MZ, complete with plaster cast and all that went with it, and he was welcomed by the President who said that all present were pleased to see him up and about again after his accident. Frank thanked all members who had visited him during his compulsory lay-up and spoke feelingly of the Amateur spirit displayed toward him by members and non-members alike. It is unnecessary to add that the means of transporting Frank to the meeting was arranged by Joe 5JO because any acts of this nature always seem to be performed by Joe.

The President, more in sorrow than in anger, referred to the fact that several members had forgotten to send in their R.D. logs and by this had robbed VK5 of a good chance of winning the contest this year, which possibly has its bright side, because I feel that across the border a certain person would not have hesitated to coin the slogan, "Join the Contest Committee and win the R.D. Contest for your Division." However, it was a pity, because from what I have heard, this year was the easiest contest for us to win, for some as yet unexplained reason.

The question of the annual picnic was brought up and it was decided that it would be held again on the January public holiday at Birdwood Oval. The oval and the buses have been booked and whilst you may think that we are a little previous in discussing the picnic that will not be held until next year, I would remind you that some of us are a little thick in the "scone" and only constant and repeated bashing on the cranium will finally force the matter home. Even then a few will come along after the picnic and say in a moaning voice, "Why doesn't somebody tell us about these things. I never heard anything about a picnic." Wouldn't it?

The meeting closed at the wishing time of 11.15 p.m. and members scampered to catch their last trams homeward to their couch of virtue, ahem! Oh, I almost forgot, an apology was acknowledged by the President from none other than that hardworking bundle of energy, Warwick 5PS, who regretted his inability to attend the meeting owing to pressure of business, and not monkey business either!

The gentle reader of the VK5 notes, and I trust that there is at least one, will have noticed from time to time the name of Ralph 5TR is mentioned. He will also notice that when this name is mentioned, it usually refers to some rise in position, some new job, or something of distinction that has been performed by the holder of that call sign. Once again I include the name of Ralph in these notes and this time I write with a tinge of envy, because I have just read in the daily paper that in his capacity of Inspector of Public Entertainments, he will probably have the job of vetting the Gypsy Rose Lee strip tease act before it will be allowed to be presented to the general public. I suggested to him that my grey hair and venerable appearance, although I could not guarantee a pair of golden spectacles, would make me an ideal assistant to him in his coming ordeal, but his rude gestures, together with his apparent suspicion as to my motives has deeply wounded me.

SOUTH EAST AREAS

5TW has had a fairly quiet month and apparently is living on his results in the R.D. Contest, which satisfied Tom that all is working well in his shack. 5CH is still trying to finish the building of his shack, but as it is only a spare time project, he is finding the going fairly tough. Claude called into the b.b.s.s. this month when he was on a hurried trip to the city. I believe that the trip was a sudden one, he decided to leave during his lunch and was on the road in less than an hour. That's what you can do when you have plenty of the filthy look—looc—lewc—well you know what I mean.

5KU has been fairly quiet this month, but rather suspect that with the coming of the finer weather, the dust will be blown off the glider and Erg will be up in the air instead of on the air. 5FD is another one who has had little or no activity to report since the R.D. Contest, but John is well satisfied with his performance during the Contest, all things being taken into consideration. 5MS has had another modulation transformer "give up the ghost," but is installing another at the moment of writing. I am not a betting man, as normal, but would anybody care for a slight wager as to whether Stuart will be the winner, for the second time in concussion, of the VK5 individual trophy for the R.D. Contest?

5JA never gives me any cause to complain, as a matter of fact I just put the name of John in the carriage of the typewriter and its starts off automatically and types, "Nothing to report." Oh yes, I have a typewriter, and one day if I am a good boy and don't annoy the V.I.P's. on the Executive, they are going to give me a filing cabinet!! What am I saying? 5CJ is on his well earned holidays, that's what he told me, the well earned is his expression, and Col. hopes to clean up quite a number of jobs that have accumulated around the house whilst he was well earning the time to clean them up. Silly isn't it?

You know what, now and again the average Amateur gets a little tired of his hobby and loses interest for a while, and then he manages to have a contact with someone whom he perhaps hasn't seen for some time, and when the contact is finished he finds that all of his enthusiasm has returned, and how! I had a couple of such unexpected contacts this month and the nostalgia that they created have made me an enthusiastic member of the 40 mx gang again. The first one was with Charlie 3BH whom I hadn't heard for several years and the other was with Rupert 7RM (ex-5RM) whom I have not seen since I was a sound projectionist in the city circuit and he was the Western Electric representative. Both these chaps and I exchanged reminiscences and re-lived the old days in Amateur Radio, and after both contacts I could not help but think how close was the friendships formed on the air by what is now termed, respectfully I hope, "the old-timers." Try it some day!!

Now having written that much, it suddenly strikes me, what do we do for those old timers who, having been a member of the W.I.A. for many years, find that they have only a pension or superannuation to see them through the declining years and therefore have not the necessary to keep up their subscription to their Division? I don't suppose that there are as yet very many old-timers who have reached that age, but surely we could recognise their loyalty to the W.I.A. by granting them full privileges in the W.I.A. for their remaining years on the air as Amateurs. Think what the magazine would mean to them, for example, and surely the few bob that it would cost would be as a drop in the ocean compared to the gesture of appreciation and its consequent morale building to the recipient. We have in VK5 an unofficial understanding that should a member strike a rough patch, he only has to let us know and he remains a member until he has passed through his troubles, but I don't know just how this understanding applies to an old-timer who is active on the air and has been a member for years. I must check up on this. Anyway, give it some thought, just because you are in the dough today, doesn't mean that you may be in it twenty years from now, and don't forget I will always be around to haunt you. Gr—rrr—rrr. I'll haunt Pincott first!!

Talking of Mr. (Knife-in-the-back) Pincott, reminds me that I am hot on a clue as to the identity of the so-and-so that sent him a copy of the "Advertiser" from which he secured the basis for his slanderous statement of a couple of months ago. A statement on the affair will be made at a time and place suitable to its importance!!

UPPER MURRAY AREAS

The monthly meeting of the Upper Murray boys was something of a compromise because Hughie 5BC and Fred 5MA were on holidays, or had been, Alex 5XO and Murray 5CF were not available, and that only left Hurtle 5RE, Harry 5KW and Tom 5TL. Then Harry found his house full of visitors which left only two members for the meeting—reminds me of the ten little nigger boys. The outcome of the whole thing was that Tom and his family had to eat pasties for days and days, Tom insultingly remarks that he could have done with my assistance on the said pasties, but I will treat this remark with ignore.

Fred 5MA had a pleasant holiday from the cares of the world this month, although that statement is something of a misnomer because his modulator chose this time to have an attack of the noises or vapours or something and if this wouldn't cause worry, what would? Hurtle 5RE has recovered from his attack of pneumonia, but is taking things easy. Hughie 5BC has been on holidays and has nothing of importance to report. Murray 5CF has been absent on holidays in Adelaide and thus can be classed as inactive as far as these notes are concerned. Alex 5XO is still unheard from the wilds of Loxton, but I heard a VK4 say that Alex is often heard up there, so he must still be in the land of the living.

Tom 5TL had to miss out on the slow morse session one night this month owing to being indisposed, although the visitation was of short duration. He also has been having noises in his modulator, in fact he describes them as "awful noises," although are there any other types of noises? Tom confirms in his monthly letter the rumour that has been floating around the city, to wit, that he will shortly be transferred from Renmark to Alice Springs. This means that he will no longer be the scribe from that area, although I hope that he will continue to send down his usual welcome monthly letter on the doings of the boys at Alice.

This will mean of course that he will have to adopt a new literary style to fit in with the new location, although I think that we will be lucky if we get too many "plurries" past the compilation department. Anyway Tom, best of luck in the new location and the grateful thanks of the leading Division of the W.I.A. for all your hard work in the past for Amateur Radio, to say nothing of my sincere thanks for all your help in these notes over the period that you have been in Renmark. They have been a plurry good help! What about it Fred? Feel like taking over again? You used to do a plurry good job? Mine tinkit that good Alice Springs talk, Thomas, and deserves a witchety grub.

One of my spies was up at Gawler recently and he reports that Les 5AX swears by his 100w. grid dip meter, he reckons that it makes a useful standby rig, to say nothing of its value as a neighbour annoyer. Oh that such wickedness should be. Compton 5EF is about to raise his new 20 mx beam. Ron 5FY whose name will always be synonymous with the Woomera Radio Club, is again the Secretary of the Club and is as keen as ever he was. He called into the b.b.s.s. the other day whilst on a brief visit to the city and gave me all the news of the boys at Woomera. Ron is an ex-VK3, but I don't hold that against him, after all one Pincott doesn't make a winter. I hope!

My paragraph about my XYL reading the VK3 notes before she read mine, in last month's magazine, received a somewhat lukewarm reception from the lady concerned when she read it, which was not improved by Doc 5MD ringing her up on the phone and pulling her leg about it. It appears that she took exception to my saying that she "lifted me up and kissed me" upon my arrival home from work. She was quite annoyed with this statement and said that everybody would think that she was some sort of an Amazon woman or something, being able to lift me up to kiss me. Anyway it finished up all right after I bought her a couple of expensive frocks and hats as a square off, in fact she was so pleased when she opened the parcels and saw what was inside that she picked me up and kissed me twice! For heaven's sake, what am I saying. Jeeves, get me my sackcloth and ashes!!

WOOMERA RADIO CLUB

The Woomera Radio Club has been having somewhat of a quiet time since their excellent showing in the R.D. Contest and when it is remembered that the club is just one year old, and though a number of the interested members have dropped off, the results of that contest will show that the remaining members are certainly as keen today as they were a year ago. Ray 5FF apparently well satisfied that he has secured the long coveted call sign is turning his attention to woodworking and it is rumoured that he will shortly have an infernal machine at his QTH which will do weird and wonderful things to any piece of unsuspecting timber that should be so foolish as to come near it. Ray is busy in knocking up a QRP rig for portable work when he goes away next Xmas.

Len 5OC, the ex-President of the Club, expects to be residing back in civilisation very soon and probably will be along to one of our general meetings to give us first hand news of the Club and the boys. John Gluyas is applying for his limited ticket and is filling in time waiting for it by hammering the c.w., which is his stumbling block at the moment for the full ticket. Stick to it John, you are not an orphan with that stumbling block. Ted ex-5JE appears occasionally on the key at the club rooms, apparently to keep his hand in. Ted is only an ex-VK5 until he leaves the area, which if all is to be believed will be never, seeing how well he likes it up there.

Just as I was about to put the cover on the typewriter for this month I happened to see that the Editor, bless his heart and—well whatever else he has in need of blessing, joined forces with Mr. Pincott in last month's magazine to tell me that the said Mr. Pincott was an ex-VK5. As if I didn't know, why as soon as I read the first notes that he ever wrote, I said to myself, "I'll bet this up and coming young man is an ex-VK5, only an ex-VK5 could write such pearls of wisdom, such splendid and straight to the point sentences, such contagious humour, such satire, and such truths. My palsy-walsy Pincy is without doubt a journalist of note, and don't take any notice of the by-play that has been going on between us for some time, we were only fooling around, just like a couple of bosom friends, weren't we Pincy, old scout, old top, old fellow VK5!!!

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WESTERN AUSTRALIA

At the September meeting of the Institute the evening's entertainment was provided by Jim 6RU who spoke on "Trends in Modern Communication Receiver Design." With his own fine home-built double conversion superhet as an example, Jim dealt with many points of interest to those anxious to get the utmost from their receiving gear. One important thing necessary before one can go into the subject as Jim has done, is plenty of patience; and he certainly possesses plenty.

Fred 6FT also provided a few moments of interest by producing large scale graphs of the trend in the m.u.f's. for paths Perth-London, San Francisco and Johannesberg since 1949. This information was culled from the monthly predictions published in "A.R.," and the summary certainly shows in no uncertain manner how conditions have deteriorated on 21 and 28 Mc. over that period.

Received some inside information on the doings of quite a number of the country gang during the month from Bernie 6KJ, of Albany, and very welcome too! Bernie has recently enjoyed a round trip from Albany, Kalgoorlie, Norseman, Esperance and Ravensthorpe and in so doing met in person some of the boys resident en route. 6RT, of Narenbeen, is reported as having a fine set-up considering d.c. mains, but shortage of space means his halfwave 80 mx antenna has had to be bent down and tied to the front fence. Mal 6MU, of Merredin, has a fine collection of useful disposals gear, but has the advantage of being right on the spot for those recent disposal sales at No. 10 S.D. 6LC is very busy figuring out a two mile remote control set-up for his Flying Doctor Service rx's. How's the 50 Mc. gear Lee? 6DX shows evidence of past DX activities (what about the present Bill?) Rx's seem to be the specialty here with an AR88, H.R.O. and Commander available. The main worry at the moment, however, is a so and so dust precipitator at a nearby mine running at something like 100,000 volts!

6CM though inactive, still very keen and one day when 10 mx comes good, maybe Bill will be back. Another Bill, of Kalgoorlie, 6WM, is also inactive. 'Tis rumoured the last time he disturbed the ether was R.D. before last. When the QTH was last sighted the antenna feedline was dangling down in the middle of the back yard, but one day it may run across to the shack again.

6TK turned on the Norseman hospitality and Bernie reports he spent a most enjoyable overnight stay with Terry. Apparently that 20 mx beam in the Kelly back yard is a landmark of Norseman. I believe some v.h.f. activity is plotted from here before very long too. 6KJ has been spending a considerable amount of time making a MN26 really work as a Q5'er. He has found that the i.f. traps in the r.f. stage cathodes can be used as additional lightly coupled i.f. tuned circuits prior to the 1st i.f. transformer with excellent results. If all the tuned circuits are put "on the nose," selectivity of the order of a crystal filter can be obtained, or alternatively stagger tuning gives a "flat top" response with sharp skirt rejection. 6RU has also tried this one with a similar degree of success, although Jim has found that his i.f. strip of two stages at 50 Kc. is still sharper—and I suppose it should be!

6FT has been working the Europeans on 21 Mc. with his 3 el. beam. 6GU was heard going hammer and tongs on 21 Mc. during the VK-ZL phone test and must have just about carried the day for the VK6 top score I should imagine. 6WS has recently taken delivery of a new "Panda" bandswitching table top tx. Skipper states that anybody is welcome to come and inspect same providing he is contacted per telephone beforehand. 6MK's 32V3 has yet to arrive, but these two rigs should provide an interesting comparison. 6LU last heard of enquiring about 50 Mc. activity with a view to getting on himself again, but nothing heard of him since on any band. 6TR was last seen grasping some 866As and muttering about a new high power rig. 6TP has been on the sick list recently, but is another rumoured to be rebuilding. 6KU, an ex-Treasurer, has recently taken unto himself a wife—please accept our heartiest best wishes for the future Ray! May you not be absent from the air for long!

JANUARY ISSUE

This time every year a plea is made to Advertisers and Contributors to forward copy early for the January issue.

To explain once again—as the printers close down for annual holidays from just before Xmas until the middle of January, it is necessary, if the magazine is to be posted to you on the 1st of January, for the magazine to be printed before Xmas.

Therefore it is requested that material for the January issue must reach 191 Queen Street, by the THIRD OF DECEMBER.

Your co-operation in this matter will be appreciated.—Editor.

TASMANIA

The October meeting was held as usual on the first Wednesday in the month at the club rooms with about 25 members present. Business for the evening was kept short and occupied the first half hour of the meeting. Lecture for the evening was given by Major E. C. A. Brown, who was in charge of long line communication in the Papua-New Guinea areas during the war. Major Brown's subject was "Communications in the Papua-New Guinea Area 1939-54" and covered the development of the linking of the vast areas of New Guinea by radio and lines. This was another in the series of lectures organised by the lecture committee and was very well received, as have all the lectures recently organised. Visitor at the meeting was Jim Millway, from Tarraleah—nice to see you Jim.

Bob 7AF has been very busy recently putting the finishing touches on a new signal generator, audio oscillator and v.t.v.m. combination, but still no sound from the new QTH. Bert 7BC, at Stanley, assures me that now accommodation is available a rig will soon be on the way—a 50 Mc. rx is almost complete. Some excellent opportunities for DX on v.h.f. there Bert, so what about a 2 mx rig and some skeds with the Northern and Southern gang. Harry 7BR, at Queenstown, having all sorts of bad luck one way and another. While demonstrating the rig to me recently the Eddystone wavemeter fell with an expensive crash from the top of the cabinet, busting the meter case; then a tree blew down on the aerial, or was the destruction of the tree to discourage the old wireless bird Brack?

Listening on 80 mx the other night I heard 7MY at Sandford as "happy as a dog with a tin tail," the occasion being the hearing of Alan's 2 mx signals by 7WN at Tarraleah, quite good strength too; nice work boys. Incidentally, a mild panic was caused at this time at the Tarraleah power station when about 5 megawatts suddenly dropped off the station load coinciding with Alan switching off his rig—well?

A moderately successful outing was had by 7OM and myself on Sunday, 3rd. 2 mx gear was taken to the top of Mt. Wellington with the intention of taking part in the "Operation Centipede," organised by the VK2 V.h.f. Group, the object being to pass a message from VK2 to VK3, 4, 5, and 7 on 2 mx. First station worked was 7MY with a 9 plus signal, which stayed that way even when the beam fell down! 7PF at Western Junction heard and worked at strength 5 was next on the list, and at 10.10 a.m. 7AM at Devonport was heard calling 7PF or 7LZ at about strength 3. Much furious calling on phone and m.c.w. failed to raise Doug, who was heard again on two later occasions calling CQ. Although the mainland was not heard, the outing was well worth the trouble and it is felt that if the 2 mx band was more thickly populated, DX would become more or less commonplace.

A field day of a different kind was held recently in conjunction with the Wireless Branch —the object being to track down some of the QRN which has been causing great trouble around Hobart. Those taking part were 7RM, 7RX, 7OM and Harry Milling, of the Wireless Branch, and three sources of bad interference were found and reported to the Hydro Authorities. Even the frightful din in the 7LE area has been fixed or at least it hasn't been heard since.

Max 7MY has caught the bug again and is building a very compact all-band rig for use in the living room. Athol 7AJ now has the mobile 7 Mc. rig working and gave it a good tryout on a recent trip to the East and North of the State. Tom 7FM off to the North again soon, and 7CA going to Mt. Arthur for a spell on v.h.f. work—170 Mc. stuff. Joe 7BJ now has audio parasitics in the 2 mx rx—will that thing ever work Joe?

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CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

CONTESTS

Editor "A.R.," Dear Sir,

I refer to comments on the above by Bill Barber, VK6DX (see October "A.R."). In reply to Bill's query "What is gained by Contests," I furnish the opinion that in any sport or hobby, proficiency is attained only at the expense of diligent training. What better training can be envisaged for Radio Amateur working than the hurly burly of a DX Contest, when signals good, bad or indifferent must be copied through QRM and QRN?

Readers might note that the Russian Amateurs hold "within the Iron Curtain," 7 Mc. c.w. Contests almost every week-end and a monitor of same, even at this distance, soon convinces one that the operators taking part have attained a high degree of proficient operating.

Regarding the suggestion by VK6DX that our Contest periods should be limited to 12 consecutive hours of operating at any one time, I would like to state that experience over a long period of Contest participation has convinced me that four week-ends, each of 12 hours, is far more easy to endure than two week-ends each of 24 hours. However, I do not agree with Bill when he suggests that to stay awake for 24 hours straight borders on insanity on the part of the individual concerned. (Just prior to writing this letter, I saw over 300 persons commence a 30 hours non-stop Redex Car Trial in VK7 and they all appeared sane and hopeful to me.)

Finally, I endorse Bill's suggestion that each Division debate the question of Contest time generally, and submit views to F.E. because, as I said before, there is merit in Bill's suggestion.

—ERIC TREBILCOCK, BERS195.

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